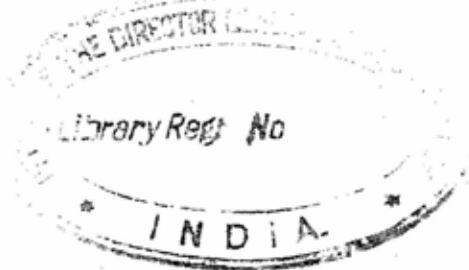


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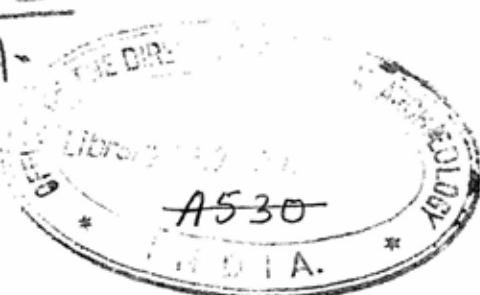
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CORRIGENDA

I REGRET that owing to a confusion for which I am alone responsible, Professor Weigand's notes on two of the Corinthian capitals (Nos. 3 and 8) have been interchanged. This necessitates the following alterations:

P. 178, fig. 8, on r., *read* 'No. 3, "WEST-ROMAN" TYPE.'

P. 180, ll. 11 ff. *Substitute* 'A typical west-Roman, not eastern, type,' etc., from the description of No. 8 (ll. 32 ff.).

L. 25. 'iii. Variant Types' should *follow*, not precede, No. 8.

Ll. 32 ff. *Substitute* 'Eastern type of normal Corinthian capital,' etc., from the description of No. 3 (ll. 11 ff.).

P. 181, fig. 10, on l., *read* 'No. 8, Antonine Age.'

P. 203, l. 7 f. *For* 'the west-Roman' *read* 'of normal "eastern" type.'

I should like to take this opportunity of adding some further comments by Professor Weigand, on Nos. 2 and 6 of the Corinthian capitals, which compel me to modify my suggestions concerning them: 'Bezüglich No. 2 (Abb. 9, rechts) möchte ich aus der minderwertigen Arbeit nicht den Schluss ziehen, dass eine spätere Kopie vorliegen könnte; die spätest-hellenistische Zeit vor der Rückwirkung des augusteisches Klassizismus in Rom auf den Osten ist besonders disziplinlos und verludert—man braucht nur den Oktogonal-bau in Ephesos mit dem Mithridatestore dort, oder Siah und Suwedah in Syrien mit Baalbek zu vergleichen. Darum kann ich für meinen Teil unter keinen Umständen annehmen dass Nr. 6 früher sein könnte als Nr. 3 (4, 5?); die Nr. 6 könnte, wenn die Beschädigung nicht täuscht, am ehesten spätes 3 Jahrhundert sein.'

June, 1932.

A. M. WOODWARD.



# THE THOLOS TOMBS OF MARMARIANE.<sup>1</sup>

(PLATES I-XI)

1. Introduction and History of the Excavations.
2. The Vases.
3. Objects of Metal, Stone, etc.
4. The Protogeometric Style at Marmáriane.
5. Relative Chronology.
6. Absolute Chronology.
7. Conclusions.

## Abbreviations :

*Δ—Σ* = Tsountas, *Αἱ προϊστορικαὶ Ἀκροπόλεις Διμηνίου καὶ Σέσκλου*.

*P.T.* = Wace and Thompson, *Prehistoric Thessaly*.

*Vardaróftsa* = Heurtley and Hutchinson, *Report on Excavations* (*B.S.A.* xxvii, pp. 1-66).

*Bouboústi* = Heurtley, *A Prehistoric Site in W. Macedonia* (*B.S.A.* xxviii, pp. 159-194).

*Chalcidice* = Heurtley and Radford, *Two Prehistoric Sites in Chalcidice* (*B.S.A.* xxix, pp. 117-186).

*Πρ.* = *Πρακτικὰ τῆς Ἀρχαιολογικῆς Ἐταιρείας*.

*CVA.* = *Corpus Vasorum Antiquorum*.

## § I. INTRODUCTION AND HISTORY OF THE EXCAVATIONS.

THE Pelasgian plain is bounded on the east by the foothills of Pelion and Ossa, which rise abruptly from the marshy flats. Among these hills, at the head of a secluded valley some twenty km. from Larisa, lies the modern village of Marmáriane.<sup>2</sup> On the northern side of this valley,

<sup>1</sup> For assistance in the production of this article the authors are jointly indebted to the School Committee, who by two generous grants met the cost of the photographs and drawings here reproduced : in Athens, the study of the material was facilitated by the unfailing courtesy of Dr. G. P. Oikonomos, Director of the National Museum. Lastly, the collaboration of the second author was made possible by his tenure, in successive years, of the Sachs Memorial studentship and the Walston studentship.

<sup>2</sup> *Μαρμάριανη*. The common spelling *Μαρμάριανη* seems to be due to the influence of names ending in *-γιάνη*, but the accent shews that this is a false analogy. There is no marble at Marmáriane, but, as suggested by Stählin, *Real-Encycl. s.v. Συκύριον*, the village may have had some interest in the well-known quarries of Chasámbale near by, for which see *Πρ.* 1910, pp. 184-5.

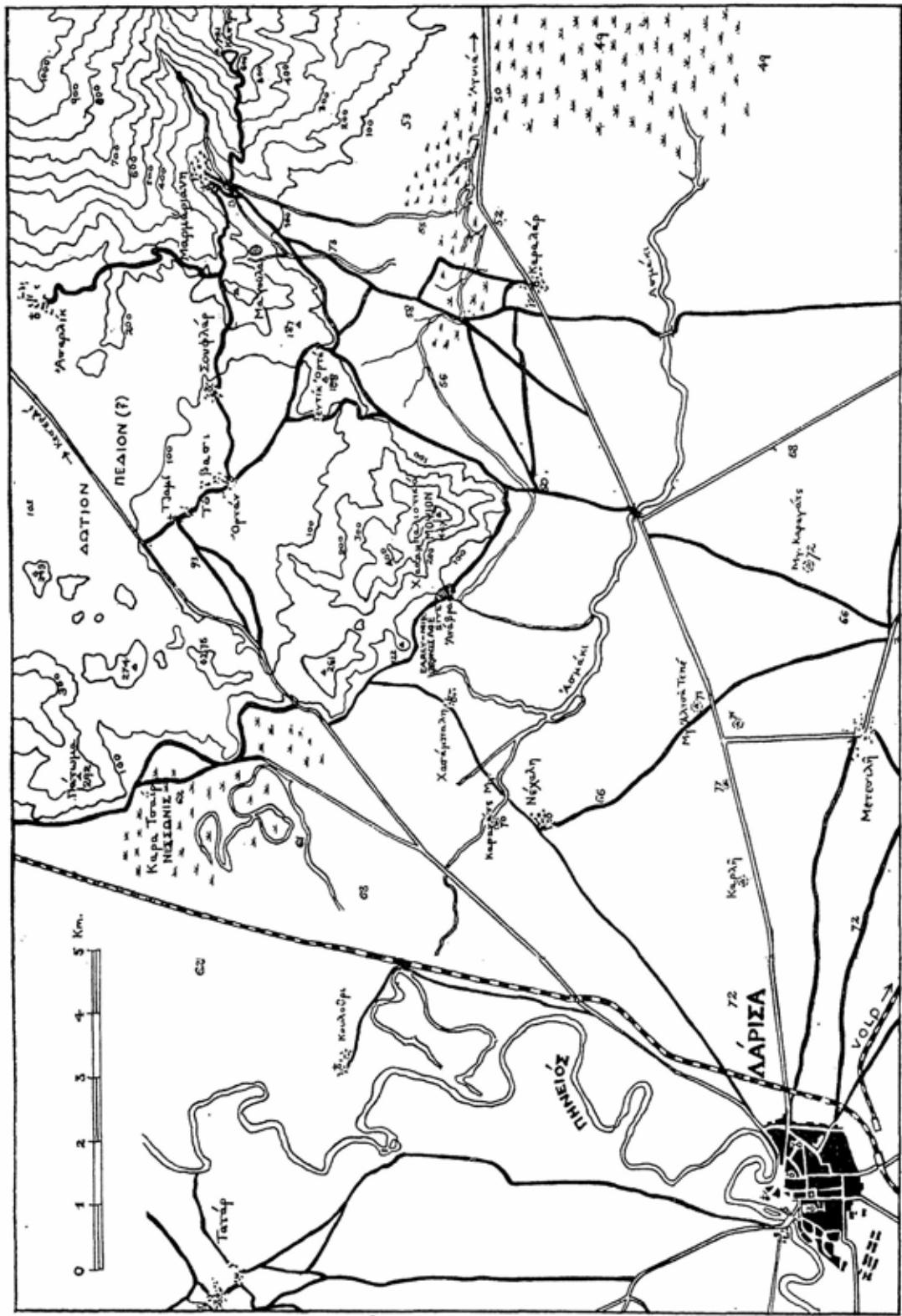


FIG. I.—MAP OF DISTRICT.

at a point about twenty minutes' walk below the village, rises a conspicuous table-topped mound, surmounted by a cornfield from which the grassy slopes fall steeply away.

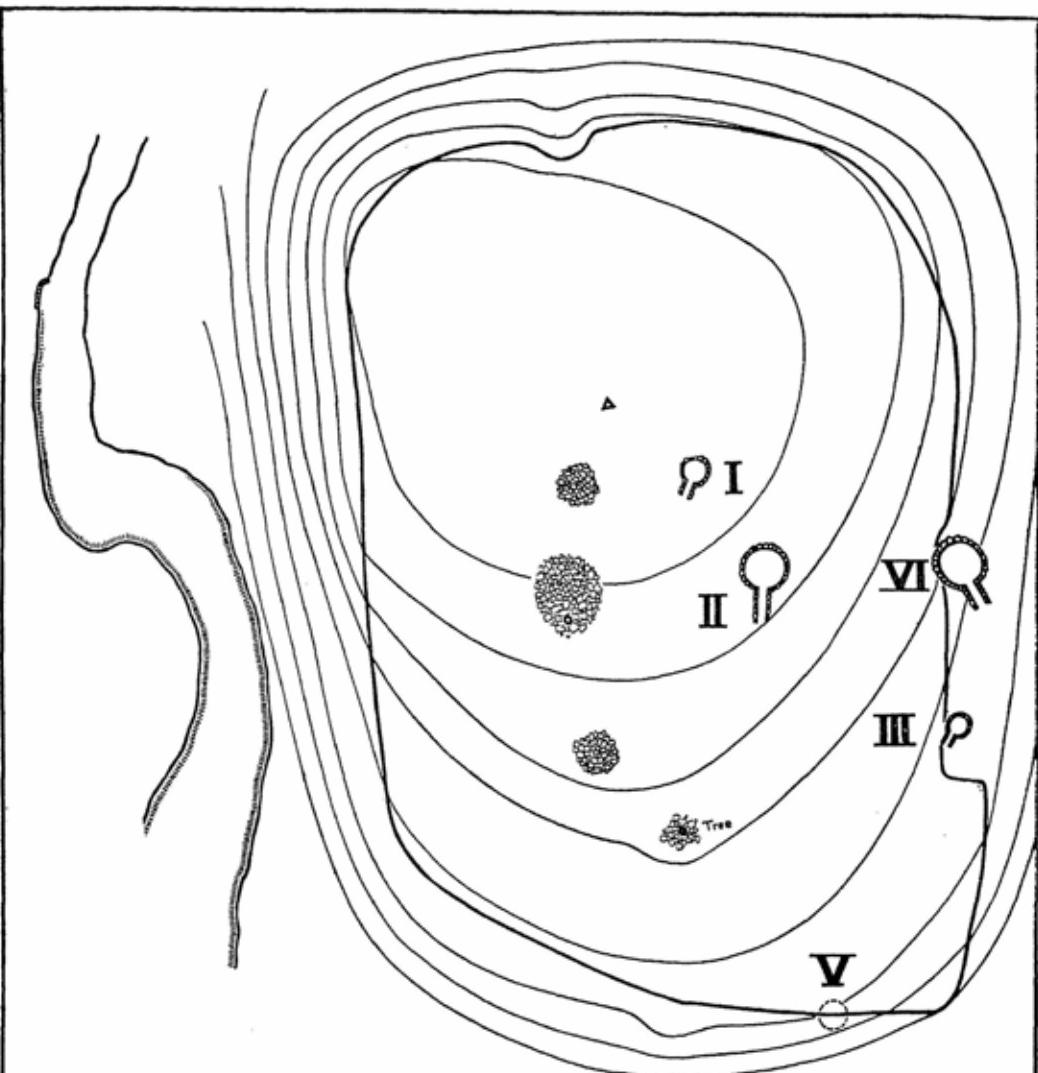
The mound (Fig. 2) is roughly rectangular, the flat top measuring 100 m. long by 80 m. wide, and rising 10–15 m. above the surrounding fields. Although standing so close to the hills which bound the valley, it is separated from them by a dry torrent-bed, and Prof. Tsountas's trial pits shewed that, far from being a natural outlier, it is largely if not entirely composed of successive settlements of the Bronze Age, which once covered not only the mound itself but also the fields below it in all directions. To-day, these fields are thickly strewn with Bronze Age sherds, including large quantities of Mycenaean, both local and imported. Considering the rarity of good Bronze Age sites in Thessaly, the extent and depth of the deposit are remarkable, and excavation would undoubtedly throw much light on this confused period. The Bronze Age settlement, however, cannot be discussed here except as a setting for the tombs which it is the purpose of this article to describe.

In this mound, in the summer of 1896,<sup>1</sup> the two tombs numbered V and VI on the plan were excavated by the late Dr. Leonardos, who shortly before his death in 1930 most generously placed at our disposal all his memoranda on the subject, including the report which he submitted to the Greek Ministry.<sup>2</sup> The further exploration of the site recommended in his report was carried out two years later by Prof. Tsountas:<sup>3</sup> besides making fresh discoveries in the two tombs already excavated, he opened four others (I–IV on the plan) and gave to the whole series the numbers which have been adopted in this article; he also cleared the debris of a fifth tomb, which had collapsed, and from the sherds associated with it concluded that it must belong to the Mycenaean period. Owing to an unfortunate accident, involving the loss of his memoranda, Prof. Tsountas was prevented from publishing a full report, but with great kindness he has given us all possible information, as well as a set of photographs, which have proved invaluable in identifying the vases and in other ways. We take this opportunity of expressing our gratitude.

<sup>1</sup> *Ath. Mitt.* 1896, p. 247.

<sup>2</sup> See pp. 9, 10.

<sup>3</sup> *Ilp.* 1899, pp. 101–2; *A–Σ*, pp. 121–2; *P.T.* pp. 53–4, 214.



# MARMARIANE MAGOULA

Scale of metres



The contours represent vertical intervals of 1.50m.



IV

V

FIG. 2.—PLAN OF MOUND.

In addition to the tholos tombs, Prof. Tsountas investigated the mound itself; several trial pits were sunk, which reached a depth of 7 m. without finding virgin soil. Numerous fragments of walls came to light, but they were too discontinuous for any ground-plans to be made out. The finds, consisting of pottery, stone axes, sling bullets, deer-horn hammers, etc., belong, with the exception of a single Neolithic sherd, to the Bronze Age. No Mycenaean sherds are mentioned, while of later material it is definitely stated that no trace was found.

We visited the site in 1931, and examined the tombs still open. Tomb VI is still in good preservation, but V has completely collapsed and is marked only by a depression filled with loose stones. The remaining tombs, three in the mound and one (IV) in the level ground to the south, are all fairly well preserved. The site of the Mycenaean tomb, which Prof. Tsountas informs us was not far from the western edge of the mound, may perhaps be recognised in the heap of stones surrounding the northern of the two small trees standing on the mound; but there are several similar heaps near by, and whether these represent unopened tombs, or are merely stones cleared off the surface for purposes of cultivation, excavation alone can decide.<sup>1</sup>

#### THE TOMBS.<sup>2</sup>

Although varying considerably in size, the tombs are of uniform plan and method of construction (Fig. 3). They are approached by a narrow dromos built of two rough walls converging towards the top; in III and VI that part of the dromos nearest to the tholos was, like the actual doorway, roofed with rough slabs; the doorway itself is not distinguished from the dromos, which leads straight into the tomb-chamber, and there are no traces of pivot-holes in the under-sides of the lintels. The opening was blocked, in the cases of III and VI at least, by a mass of rough stones.

The dromoi have usually been destroyed or filled up with earth, but as far as we could judge they seem to have been level, and not inclined downwards as commonly elsewhere. This is quite certain where parts of the dromos-walls have been preserved intact, and in the remaining

<sup>1</sup> Prof. Tsountas informs us that the curvilinear wall marked on the plan on the far side of the torrent-bed belongs to the Bronze Age settlement, and has no connection with the tombs.

<sup>2</sup> Cf. the tholos tombs at Mycenae, *B.S.A.* xxv. pp. 283-402.



a



b



c



d

a, TOMB I. DROMOS AND DOORWAY.  
b, TOMB II. DROMOS AND DOORWAY.  
c, TOMB III. DROMOS AND DOORWAY.

<sup>a</sup>  
<sup>b</sup>, TOMB II. DROMOS AND DOORWAY.  
<sup>c</sup>, TOMB III. DROMOS AND DOORWAY.

FIG. 3.

cases the general appearance seems to point to a similar condition. Even tomb IV may easily have had a level dromos, since the ground slopes away sufficiently in front. The construction of a level dromos was greatly facilitated by the fact that the tholoi were not completely sunk in the ground, but, as in most cases elsewhere, must have projected considerably above ground level when complete, though this projecting part has now in all instances collapsed.

The tholos itself is usually more or less circular in shape, but in III it is markedly elliptical, the western side being almost in line with the west wall of the dromos, and the same is the case, though in a less degree, with VI. The tholos-walls are built of blocks and slabs of schist, mostly unworked except for the large slabs forming the lintel and dromos-roof, which are roughly trimmed. There is not much attempt at regular courses, except in III, where the lowest course consists of slabs, above which are two courses of blocks, surmounted by further slabs. In all the tombs except IV clay-mortar was used for the upper courses. In II and III the north wall of the tholos abuts on to a wall of the Bronze Age settlement, and since in both cases the side of the tholos has collapsed at this very point, it looks as if pressure from the settlement wall has been the cause; in III this collapse has exposed a section of the wall of the tholos, from which it can be seen that the slabs which form the inner face are counterweighted by other slabs behind them, the total thickness of the wall being about one metre.

*Tomb I* (Fig. 3a).

Diameter of tholos : width,<sup>1</sup> 3·2 m.; length, 3 m.

Present height of tholos : N. end, 1·7 m.; S. end, 1·2 m.

Width of dromos : 0·98 m.

Length of dromos (including doorway) : 2·5 m.

Height of doorway : 1·2 m.

The construction does not differ from that of the other tombs. Only one of the covering slabs of the doorway or dromos is *in situ*, but a little to the east of the tomb lie two of the missing slabs. South of the existing slab the west wall of the dromos is preserved for about 0·6 m.; but the east wall has completely disappeared. The upper courses of the tholos, beginning about 0·5 m. from the present floor, are mortared with yellow clay.

<sup>1</sup> *I.e.* measured at right angles to the line of the dromos.

Inventory includes *Vases* : Nos. 30, 64, 106, 131, 132.

*Bronze* : Nos. 8, 10 (armlets).

*Iron* : Nos. 13 (spectacle fibula), 16 (pin), and two rings like Nos. 19, 20; fragments of two knives (*v. p. 38*).

*Tomb II* (Fig. 3b, d).

Diameter of tholos : width, 5·6 m.; length, 5·4 m.

Present height of tholos : N. end, 3 m.; S. end, 1·8 m.

Length of dromos (including doorway) : 5·1 m.

Height of doorway : 1·4 m.

Construction as in I, but there is a freer use of blocks, as opposed to slabs. Part of the north tholos-wall has collapsed, owing to the pressure of a settlement wall behind it. The inner lintel-slab extends 0·35 m. on each side of the jambs. Above it is a large flat slab, forming a kind of cornice. The mortar begins *ca.* 0·7 m. above the floor. There seems to have been a threshold of rather irregular slabs, some of which are *in situ*.

Inventory includes *Vases* : Nos. 68, 72.

*Gold* : Nos. 1-5 (hair-rings).

*Bronze* : No. 9 (armlet).

*Iron* : No. 21 (ring).

*Glass* : No. 31 (beads).

*Tomb III* (Fig. 3c).

Diameter of tholos : 2·3 m.

Present height of tholos : 1·3 m.

Width of dromos : 0·7 m.

Length of dromos (including doorway) : 2 m.

Height of doorway : 1 m.

This is the smallest of the tombs. Its peculiarities of shape and construction have been mentioned in the introduction. As in II, part of the north wall of the tholos has collapsed owing to the pressure from behind of a wall of the prehistoric settlement. From the section thus exposed it can be seen that the thickness of the tholos-wall is determined by the length of the single large slabs which form the vault, but that smaller slabs are wedged between them at the back. In the inner face, too, there is a general use of small stones packed between larger ones. There are traces of mortar in the upper courses. Two slabs of the lintel remain *in situ*.

Inventory includes *Vases* : Nos. 28, 67, 70, 133.

*Iron* : Nos. 15 (spectacle fibula with gold boss), 17 (pin) and a ring like Nos. 19, 20.

*Tomb IV.*

Diameter of tholos : width, 2·5 m.; length, 2·7 m.

Present height of tholos : 1·3 m.

Width of dromos : 1·6 m.

Length of dromos (including doorway) : 1·75 m.

Height of doorway : 1·25 m.

Though this tomb lies where the ground is more or less level, to the south of the mound, it is sunk at a point where there is a slight slope. It must have projected very little above the ground, since there is a metre of settlement earth above the present top of the walls, and the tholos when complete cannot have been more than 3 m. high, if as much. The construction is somewhat better than that of the other tombs. There is one slab over the doorway, and probably one more covered the dromos, which is very short.

Inventory includes *Vases* : No. 27.

*Tomb V.*

The tomb has collapsed. The following notes and measurements are taken from Dr. Leonardos's report.

Diameter of tholos : 3·25 m.

Present height of tholos : 2 m.

Height of doorway : 1·05 m.

Width of doorway : 0·6 m.

A wall of the prehistoric settlement lies underneath the foundations of the tomb. Most of the vases ('about twenty') lay between the centre and the entrance, the bones being mixed up with them.

Inventory includes *Vases* : Nos. 6, 11, 29, 34, 35, 36 (?), 40, 46, 49, 54, 56, 60 (?), 66, 80, 81, 84, 91, 113, 115, 124, 137, 138, 141, 142, 145, 149, 150.

*Bronze* : No. 6 (ring).

*Iron* : No. 14 (spectacle fibula) pin-fragments like No. 18.

*Stone* : No. 24 (marble pommel), No. 25 (sling bullet), No. 26 (pounder), and 'a stone tripod.'

*Glass* : No. 32 (wire-drawn bead).

*Clay* : Nos. 36 (fluted bead or button), 37 (sling bullets), and a loom-weight (?).

*Tomb VI.*

Diameter of tholos : width, 5·4 m.; length, 5·75 m.

Present height of tholos : 2·8 m.

Width of dromos : 1·2 m.

Length of dromos : 3·7 m.

Height of doorway : 1·6 m.

'The shape is not, strictly speaking, a circle, but rather an ellipse, but the difference is comparatively slight. The doorway has a lintel above it which projects partly over the dromos, while similar slabs, as appears from various fragments, covered the part of the dromos nearest the doorway, which was itself blocked up with large stones. The tomb has an opening in the roof, a large slab 1·2 m. long, certainly from the top of the tholos, being found inside. Judging from the number of bones of horses and dogs found, it continued in use for a considerable time as a sort of rubbish-pit for dead things of all kinds. The fragments of skeletons which lay in confusion inside reached a height of nearly half a metre above the deposit in which the finds lay. The wide aperture at the top of the tholos (3·5 m. in diameter) and the lack of finds in the centre of the tomb, added to the discovery of human remains above the floor-level, all point to the tomb having been robbed in antiquity. The position of the original skeletons cannot now be determined with any certainty: probably they were on the right-hand side as one enters the tomb, where indeed fragments of them were found. In the centre of the tomb lay one skeleton stretched out at full length and facing towards the entrance, that is, with his feet towards the south. Between his left thigh and the tip of his left hand was an iron sword 0·5 m. in length, much corroded. Near by were some (glass) beads from a necklace which had perhaps adorned the hilt or the sword-belt. On the hilt were also small bronze studs, and others were found by the right shoulder of the corpse (perhaps from a baldric). Elsewhere was found a small piece of black stone (obsidian) with a cutting edge, and a fragment of a stone axe. Other classes of objects were very poorly represented: of gold, silver, and precious stones especially there was no trace. The most important finds in the tomb were the vases. These, about forty in number (whole or in pieces), were mostly found round the edge of the tomb-floor.'<sup>1</sup>

Inventory includes *Vases*: Nos. 1, 3, 4, 10, 14, 17, 18, 25, 31, 37 (?), 39, 42, 43, 53, 59, 62, 65, 69, 74, 76, 79, 90, 92, 94, 96, 102, 122, 126-129, 130, 136 (?), 139, 147, 148.

*Bronze*: Nos. 7 (ring), 11 (fibula), 12 (leaf).

*Iron*: Nos. 18 (pin), 19, 20 (rings), 22 (sword), 23 (two knives and fragments of others; also part of a spear-head).

#### *Mycenaean Tomb.*

Since this tomb has collapsed there is little to say about it. In addition to the Mycenaean sherds, Prof. Tsountas found here three steatite (Nos. 27-29) and three clay (Nos. 33-35) beads (or buttons).

The tholos tombs of Thessaly have so far attracted little attention. They are, however, of interest as constituting the only considerable

<sup>1</sup> Extract from Dr. Leonardos's report.

group of such tombs outside the immediate vicinity of Mycenae. Introduced into Thessaly as early as the Second Late Helladic period, the tholos enjoyed a remarkable popularity which even survived the extinction of the Mycenaean civilisation; indeed, we can trace it far into the Iron Age, long after it had fallen into disuse throughout the rest of the peninsula. While the reasons for this strange survival are obscure, it is possible that the local abundance of schist, a stone particularly suited to the construction of such tombs, was partly responsible.

The earliest known Thessalian tholos, that at Kapaklı on the outskirts of Volo, is L.H. II in date.<sup>1</sup> The chamber itself, built of entirely unworked blocks, exhibits no special peculiarities. It is approached by the usual dromos, which leads to a covered entrance-passage 5·50 m. in length (equal to more than half the width of the tholos); this passage is blocked at either end with a roughly-built wall, the intervening space being filled with earth and loose stones. In the later (and also much smaller) tholos tombs at Marmáriane, we find this covered entrance-passage obtained merely by roofing over the part of the dromos nearest the tomb-chamber. It is possible that this expedient was originally adopted when a tomb was sunk in more or less level ground, for in such a case an open dromos would necessitate very high walls. Certainly the Kapaklı tomb is situated in almost level ground, and in several of the Marmáriane tombs the slope is very slight.

Several tholos tombs can be assigned to the Third Late Helladic period; there are the two well-known tombs at Dimini, one of which is sunk in the mound;<sup>2</sup> one at Sesklo;<sup>3</sup> one at Goúra,<sup>4</sup> now a lime-kiln; one at Kardítza;<sup>5</sup> the ruins of what was probably a tomb of this type in the mound at Rachmáni;<sup>6</sup> and lastly the Mycenaean tomb found at Marmáriane by Tsountas, which also seems to have been of the tholos type.<sup>7</sup>

But the greatest number of these tombs belong, or appear most

<sup>1</sup> 'Εφ. 'Αρχ. 1906, pp. 211-224; some supplementary observations by Arvanitopoulos in Πρ. 1912, pp. 229-232, should be treated with caution.

<sup>2</sup> (a) *Ath. Mitt.* 1884, p. 102; 1886, pp. 435 ff.; 1887, pp. 136 ff.

(b) *Δ-Σ.*, pp. 152-6.

<sup>3</sup> *Δ-Σ.*, p. 115.

<sup>4</sup> *P.T.* p. 208.

<sup>5</sup> *B.C.H.* 1920, p. 395.

<sup>6</sup> *P.T.* pp. 40-1. A still more doubtful example at Zerélia, *ibid.* p. 161.

<sup>7</sup> See above, pp. 3, 5.

probably to belong, to the Early Iron Age. To the six at Marmáriane, we must add four or five noted by Arvanitopoulos at Chyretiae in Perrhaibia;<sup>1</sup> another, of uncertain date, said to have existed at Gonnos;<sup>2</sup> several at Sesklo;<sup>3</sup> at places between Sesklo and Dimini and in or near Volo;<sup>4</sup> near Argelasté, near Meléai, and at Léstiane (all in Magnesia);<sup>5</sup> and finally at Dranísta in Dolopia.<sup>6</sup> Tomb 6 at Hállos may have been a degenerate form of tholos.<sup>7</sup>

The majority of these tombs have been very imperfectly investigated and detailed comparisons are therefore difficult to make; but it will be noticed that the covered dromos is found at Chyretiae, in Tomb 3 at Sesklo, and at Dranísta, while in two of the Léstiane tombs the dromos approaches the tholos at a tangent, a development which is foreshadowed in some of the Marmáriane tombs (Nos. III and VI).

In all the instances quoted above the method of burial seems to have been inhumation; at Marmáriane, at any rate, no traces of cremation have been recorded, and reports of it elsewhere are quite untrustworthy.<sup>8</sup> The only authentic examples of cremation in Thessaly are the funeral pyres of Hállos, which are shewn by their contents to be much later in date.<sup>9</sup> As regards the position of the bodies in the tomb, the only complete skeleton in the tombs excavated by Leonardos at Marmáriane was extended at full length, but Tsountas<sup>10</sup> found crouched burials resembling those of the Bronze Age cemetery at Sesklo. That the latter practice survived into the Iron Age is confirmed by the occurrence of a grave containing a crouched skeleton in the dromos of Tomb 1 at Sesklo. In the cist-graves of Theotókou the skeletons were all in a slightly contracted attitude.<sup>11</sup>

Although such conclusions are notoriously unreliable, consideration of the funerary customs would naturally lead us to expect at Marmáriane

<sup>1</sup> *Πρ.* 1914, p. 168.

<sup>2</sup> *Ibid.* 1910, p. 246.

<sup>3</sup> (a) Excavated by Tsountas, *Δ-Σ.* pp. 115, 121, note 2. Some of the vases from these tombs are now in the National Museum, Athens, but they are in poor condition and present few interesting features.

(b) Excavated by Arvanitopoulos, *Πρ.* 1911, pp. 294–300.

<sup>4</sup> *Πρ.* 1911, pp. 300, 302–3; *'Εφ. Ἀρχ.* 1914, p. 141; *Arch. Anz.* 1915, pp. 188–9.

<sup>5</sup> *Πρ.* 1910, p. 221; *ibid.* p. 226; 1911, pp. 292–4.

<sup>6</sup> *Πρ.* 1911, pp. 351–3.

<sup>7</sup> *B.S.A.* xviii, p. 4.

<sup>8</sup> E.g. *Πρ.* 1911, pp. 351–3; 1912, pp. 229–232; *'Εφ. Ἀρχ.* loc. cit.

<sup>9</sup> *B.S.A.* xviii, pp. 1–29.

<sup>10</sup> *Δ-Σ.* p. 152, note 1.

<sup>11</sup> *P.T.* pp. 209–214.

a marked survival of Bronze Age ideas. How strikingly this is confirmed by the contents of the tombs will appear in the succeeding sections.

## § 2. THE VASES.

### Group I. Hand-made Local.

#### Class 1. *Jugs with cut-away necks.* (Fig. 4.)

The vases of this group have globular bodies and flat bases; the necks, concave in profile, are sometimes thrown back. The lip is cut away from the middle to the back, and, in a few cases, in front as well, but less deeply: the rolled handles have one or more twists. The clay is well-baked and very hard, and the walls are pared to a remarkable thinness. The clay varies in colour both in the fracture and on the surface according to the firing, but the prevailing tone is grey. There is no true slip.

1. Ht. 22 cm. *Tomb VI.* On the reverse a crack mended with lead. Clay reddish-grey in the fracture and on the surface.
2. Ht. (as restored) 19 cm. Colour lighter than last. The missing lip has been incorrectly restored in the photograph as that of a beaked jug.
3. Ht. 21 cm. *Tomb VI.* Dark red in the fracture and on the surface, which has black and grey patches.
4. Ht. 21 cm. *Tomb V.* Silvery-grey. (Not illustrated.)
5. Ht. 32 cm. *Tomb VI.* Silvery-grey.<sup>1</sup>
6. Ht. 25 cm. On the back of the handle a horizontal series of oblique strokes. Dark grey.
7. Ht. 21·5 cm. Grey with red under-surface: grey in the fracture.
8. Ht. 24 cm. Handle and part of body missing. Light grey. (Not illustrated.)
9. Ht. 19·5 cm. The out-turned lip is sharply pinched in at the point where the cut-away begins. The handle is rolled but has no twists. Clay light red in the fracture, darker red on the surface, which is now rough in places.

#### Class 2. *Jugs with sloping necks.* (Pls. Ia, II.)

Slightly out-turned lip, broad flat handle. The clay is brick-red both in the fracture and on the surface, which is carefully smoothed. The paint is dull purplish to black. In neither of the vases is the shoulder-decoration continuous, the space below the arch of the handle being left blank.

10. Ht. 29 cm. *Tomb VI.* At the back of the neck, shoulder, and body are about twenty round holes, some of which have remains of lead rivets.

<sup>1</sup> In these descriptions the colour of the vase, when stated without qualification, indicates the surface-colour of the clay.

11. Ht. 15·5 cm. *Tomb V.* The lip is pinched in towards the front and widened at the back.<sup>1</sup>

Class 3. *Bowl with pointed triangular handles.*<sup>2</sup> (Pl. Ib.)

12. Ht. 8 cm. The lip is bevelled, the base slightly cupped. Clay grey in the fracture, reddish on the surface, which, originally polished, is now rough and porous; it is therefore not possible to decide whether this vase is hand-made or wheel-made.

Class 4. *One-handled cup.* (Pl. Ib.)

13. Ht. 6·75 cm. Flat loop handle. The ridge separating the two parts of the vase is pinched out at the front into a triangular knob. The clay is grey in the fracture, warm yellow on the surface, which has a smooth texture (due to a slip) like that of Minyan pottery.

Class 5. *Two-handled cups (plain).* (Pl. Ib.)

Similar in fabric to the last. Flat band handles. These vases are elliptical, not circular, the handles being on the minor axis. Cf. the following class (6).

14. Ht. 8·5 cm.<sup>3</sup> *Tomb VI.*

15. Ht. 8·5 cm. (Not illustrated.)

16. Ht. 9·5 cm. Mended in antiquity.

There is a vase of this class, from Marmáriane, in the National Museum, Copenhagen.<sup>4</sup>

Class 6. *Two-handled cups (with painted decoration).* (Figs. 5-7.)

The shape is similar to that of the last class. The surface is red of various tones ranging from bright red to reddish-yellow or orange. The dull paint was perhaps originally deep black, but is now often pale, having been badly fixed. It has a purplish tone. While the patterns on the upper part vary from vase to vase, the lower part has almost invariably a broad zigzag band with tails.<sup>5</sup>

<sup>1</sup> The pothook spiral painted below the handle (see Fig. 20, 1) is an ornament characteristic of the north-Greek matt-painted fabrics of the Bronze Age; a rectilinear version is found at Bouboústi. In the 'Third Style' of Lianokládi it is especially frequent. See also below, note 5.

<sup>2</sup> For the handles cf. *B.M. Vases*, i, Fig. 46 A 238<sub>2</sub>.

<sup>3</sup> The handles are not included in the measurements of this class.

<sup>4</sup> *CVA, Copenhagen* ii, Plate 66, No. 5.

<sup>5</sup> In all but two of these vases, small pendant loops are painted inside the rim at the point where the handles are attached. These loops are degenerate versions of the pothook spiral of the matt-painted pottery of the Bronze Age. The fully-formed spiral is found in the same position on a bowl of this class from Chassán-Tatár, south-west of Larisa (*P.T.*, Fig. 149): Nos. 27-29 at Marmáriane shew an intermediate stage, where the spirals, carelessly drawn and too closely wound, have assumed the form of discs.

THE THOLOS TOMBS OF MARMARIANE.

17



FIG. 6.—CLASS 6.

C

17. Ht. 8·3 cm. *Tomb VI.* Red with dark paint.
18. Ht. 9 cm. *Tomb VI.* One handle mended in two places with lead rivets. Dull red, with dark paint.
19. Ht. 7·5 cm. Red with pale paint.
20. Ht. 10·5 cm. Pale yellowish-red with pale paint.
21. Ht. 9·5 cm. On the back of each handle is a zigzag stripe. Deep red with pale paint.
22. Ht. 11 cm. Light red with pale brown paint.
23. Ht. 11·5 cm. Orange with pale paint.
24. Ht. 12 cm. Red with rather deep paint.
25. Ht. 9 cm. *Tomb VI.* Red with rather deep paint.



FIG. 7.—CLASS 6 VASES FROM MARMARIANE IN BERLIN.

26. Ht. 11 cm. Orange with light paint.
27. Ht. 10·5 cm. *Tomb IV.* Discs instead of loops inside the lip. Red with deep paint.
28. Ht. 11·5 cm. *Tomb III.* The zigzag band on the lower part is made with a number of parallel strokes.<sup>1</sup> Yellow with pale purple paint.
29. Ht. 8 cm. *Tomb V.* Five lead rivets on the left handle. On the shoulder a horizontal stripe with a reserved zigzag. Buff with brownish paint.

Two vases of this class, from Marmáriane, are now in Berlin; the first, in the Altes Museum (No. 30515), is published here by the kind permission of Dr. Robert Zahn (Fig. 7 a); the second, in the Staatliches Museum für Vor- und Frühgeschichte (No. IV. c. 189; ht. 9·5 cm.), we are enabled to reproduce by

<sup>1</sup> As in No. 10 (see Pl. II). Reduplication is one of the chief principles of ornamentation at Marmáriane; we may compare the upright zigzags on No. 106.

the courtesy of Dr. W. Unverzagt (Fig. 7 b). Both vases are of the usual reddish clay painted with purple matt colour.

Group II. Mycenaean.

Class 7. *Jug with cut-away neck.*<sup>1</sup> (Fig. 8.)

30. Ht. 13·5 cm. *Tomb I.* The band below the lip is continued down the edges of the handle to the uppermost of the three body-zones. Clay

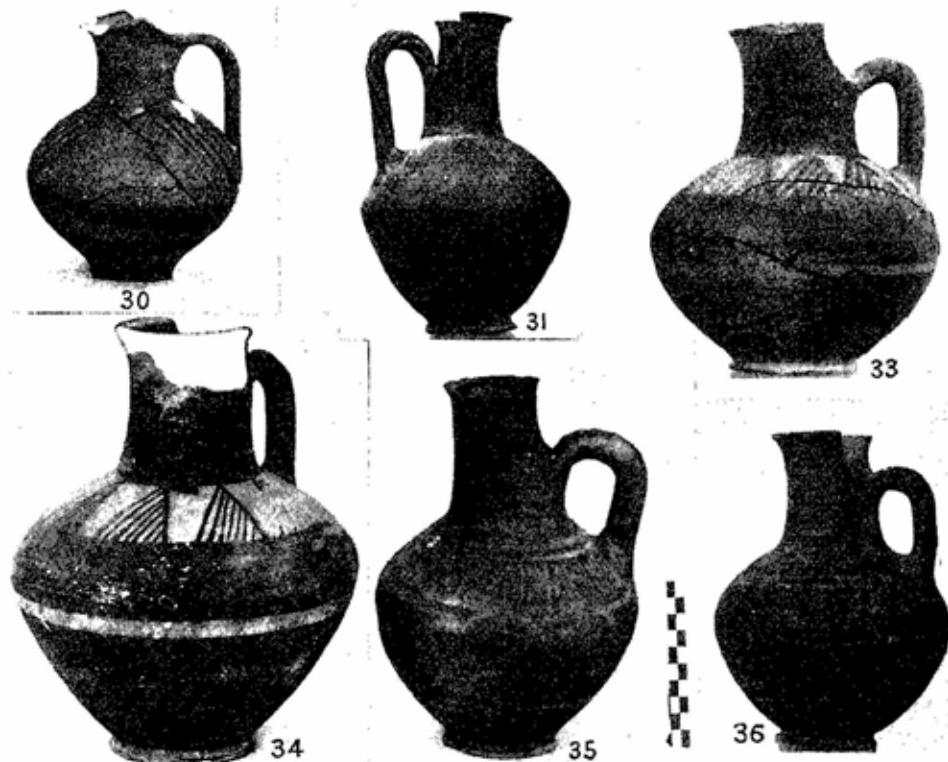


FIG. 8.—CLASSES 7, 8.

reddish in the fracture, warm yellow at the surface, which has a smooth texture. The glaze varies from light to dark purplish-brown according to density. Fabric, shape and decoration are all Late Helladic III, but the vase was probably made locally, as the clay is micaceous.

<sup>1</sup> A similar miniature jug with cut-away neck, made in a similar fabric, comes from the great Iron Age tholos at Volo, excavated by Arvanitopoulos in 1914; another, found with L.H. III vases at Babá near Pharsalos, is in the Halmyrós Museum. The shape is, of course, a common Mycenaean one, but in point of size the nearest parallels are *Kordhoni*, Figs. 66 and 79 (both L.H. II).

## Group III. Protogeometric.

## Class 8. Jugs with cut-away necks. (Figs. 8, 19, and Pl. III.)

Common to all the vases of this class (except two) is a flattened lip. The profile of the body is usually rounded, but there is often a more or less sharp angle at the shoulder. The widest part of the vase is generally a little below the handle, from which point the sides taper rather sharply to a low ring foot; there is often a well-marked ridge at the base of the neck. The clay is reddish, well-baked and hard, and the walls thin. The smooth surface is obtained by means of a thin slip. The intention was probably to produce a buff surface and black glaze,<sup>1</sup> but owing to the chances of firing this was not uniformly achieved, so that actually the colours of surface and glaze vary from vase to vase and on the same vase. Accordingly, in the following description 'red' means black glaze that has turned red.

31. Ht. 18 cm. *Tomb VI*. The flat protruded lip is barred,<sup>2</sup> and there is a band inside. On the shoulder, five triangles one inside the other on a common base, the sides of the inner triangles being produced to meet the outermost triangle; the innermost is latticed.<sup>3</sup> The triangles are separated by groups of diagonal lines, and two such lines fill the space between the left-hand triangle and the handle. Surface and glaze mottled; execution more careful than usual. Neck decoration, Fig. 19.

32. Present ht. 16·5 cm. The shape is inferred from the round handle. Neck and upper part of handle missing. Mottled surface and glaze. Companion piece to No. 34. (Not illustrated.)

33. Ht. 19·5 cm. Bars on the lip. Pale buff with thin black to brown glaze.

34. Ht. 25·5 cm. *Tomb V*. Bars on the lip and a band inside. Top of handle twisted.

35. Ht. 22 cm. *Tomb V*. The handle is fluted rather than twisted. The lip is glazed inside; the foot is not painted. On the shoulder, groups of oblique and vertical strokes, painted with a multiple brush (cf. Nos. 59, 60). Pale brown glaze with metallic lustre.

36. Ht. 21 cm. *Tomb V* (?). Band inside the lip; latticed triangles on shoulder. Neck decoration, Fig. 19.

37. Ht. 20·5 cm. *Tomb VI* (?). Two rough grooves round the lip, and one at base of neck. Buff with black (much perished) glaze which has turned red on one side. Painted by the same potter as No. 116.<sup>4</sup>

<sup>1</sup> The preference for a black glaze marks the transition to the Iron Age. The tendency has been observed even in the 'Granary Class' at Mycenae (*B.S.A.* xxv, pp. 29–41). It is often combined with very hard firing, which gives rise to the metallic sheen frequent in Early Iron Age pottery (*ibid.* pp. 31–33; *'Apx. Δελτ.* 1917, p. 31; *Artemis Orthia*, p. 56).

<sup>2</sup> In all vases of this class, except where otherwise stated, the flattened surface of the lip, and the foot, are glazed.

<sup>3</sup> Cf. Fig. 18, middle of third row.

<sup>4</sup> Measurements of the concentric circles shew that the two vases were painted with the same multiple brush. Similar instances will be noted as they occur.

38. Ht. 21 cm. Five grooves round the lip.

(In this vase, as in most of the remainder of this group, the concentric semicircles are drawn as three-quarter circles, the lower part being then covered with the body glaze. Sometimes a narrow band of glaze intervenes. The circles are compass-drawn with a multiple brush.)

39. Ht. 24 cm. *Tomb VI.* Note how, some of the brushes being too full, the paint has filled the spaces between the circles. Pinkish with metallic glaze, brown on one side, dark brown on the other.

40. Ht. 22·5 cm. *Tomb V.* Buff with brown glaze; mottled patches.

41. Ht. 20 cm. Handle and much of body missing. Concentric semi-circles on shoulder; rest of vase blacked. The body-glaze stops short of the foot. Buff with streaky brown glaze; mottled patches. (Not illustrated.)

42. Ht. 20 cm. *Tomb VI.* Angular profile: handle rolled but not twisted; low conical foot. The circles are drawn with the same brush as those on No. 59; possibly No. 140 is by the same artist. Neck decoration, Fig. 19.

43. Ht. 21 cm. *Tomb VI.* Buff with black metallic glaze, both much discoloured.

44. Ht. 25 cm. The lip is not flattened, and there is no foot. The back of the handle is pared to a flat surface.<sup>1</sup> On the neck is a reserved zone with double horizontal wavy line. The four groups of concentric semicircles, which are not drawn three-quarters round as usual, have central 'hour-glass' filling. The two on the front of the vase overlap. Both surface and glaze much perished. In fabric and decoration this vase is unlike the others; it is also particularly heavy.

45. Ht. 31·5 cm. The handle is missing. Bevelled lip; stepped ridge near base of neck. Warm buff with deep black glaze: unusually good fabric. By the painter of No. 60.

46. Ht. 38 cm. *Tomb V.* The widest part of the vase is exceptionally low. Moulded ridge at base of neck, which is steeply cut away. The lip has bars and a broad band of glaze inside. At the base of the handle is a circular pit. Pale buff with black glaze: both surface and glaze much perished.

47. Ht. 33·5 cm. Nick at base of neck. Low conical foot. Buff with black glaze. Neck decoration, Fig. 19.

#### Class 9. Jugs with trefoil lips. (Pls. IV, V, and Fig. 19.)

The form of the body and foot, the fabric and the decoration, are as in the last class. The handles, however, are always flat, and, unless otherwise described, are decorated with crossed wavy stripes, the ends of which are carried down to the glaze on the body. There is usually a loop round the base of the handle.

<sup>1</sup> This type of handle is found on vases, probably of rather later date, from the Iron Age tholos at Volo. It also occurs in Macedonia (*B.S.A.* xxiv, p. 20, Figs. 13-14, from Chauchitza, and xxvii, Pl. XVIIIa, 4 from Vardaróftsa).

48. Ht. 30 cm. On the shoulder, opposing groups of diagonal strokes, drawn with a multiple brush, and separated by solid triangles.<sup>1</sup> In the centre the sequence is interrupted by an empty square. On the handle, bars. Pinkish with good black glaze, metallic in places. By the painter of No. 49.

49. Ht. 28 cm. *Tomb V.* The handle is mended with lead rivets. Decoration on shoulder much as last. Red with good black metallic glaze, turned red on one side. By the painter of No. 48.

50. Ht. 30·5 cm. On the edges of the handles, rough dots. Pale buff with black metallic glaze. Careless execution. Neck decoration, Fig. 19.

51. Ht. 24 cm. Angular profile. Moulded ridge at edge of shoulder. Band inside lip. Light red with brown-black glaze. Companion piece to 53. Neck decoration, Fig. 19.

52. Ht. 16·5 cm. Band inside lip. Light red with red glaze, black in places. Handle decoration, Fig. 20, 3.

53. Ht. 22 cm. *Tomb VI.* Angular profile, and ridge as in 51. Band inside lip. Buff with brown-black glaze. Companion piece to No. 51. Neck decoration, Fig. 19.

54. Ht. 24 cm. *Tomb V.* The ends of the latticing in the shoulder panels reach below the broad band of paint. Light brown with purplish-brown metallic glaze. Neck decoration, Fig. 19.

55. Ht. 26 cm. Angular profile. Buff with red-brown glaze. Similar in fabric to 52 and 53, in decoration to 50. Handle decoration, Fig. 20, 4; neck decoration, Fig. 19. (Not illustrated.)

56. Ht. 33 cm. *Tomb V.* On the handle, bars. Buff with brown-black glaze, turning red in places.<sup>2</sup> Neck decoration, Fig. 19.

57.<sup>3</sup> Ht. unknown. Neck, handle and part of shoulder missing. On the shoulder, outlined latticed triangles, resting on a bordered wavy line. The glaze stops short of the foot. (Not illustrated.)

58. Ht. 30 cm. Round the middle of the neck a moulded band. Handle completely glazed. Surface and glaze much perished.

59. Ht. 26 cm. *Tomb VI.* Concentric semicircles on shoulder; rest of vase blacked. Band inside the lip; no loop round base of handle; reserved zone three-quarters of the way down the body. By the painter of 42 and (probably) 140. (Not illustrated.)

<sup>1</sup> This very ancient form of ornament, which also appears on the next vase and on No. 140, is frequent throughout the Aegean area during the greater part of the Bronze Age. Though little used by the Mycenaean potters, it is found again in Sub-Mycenaean, and returns to popularity in the Protogeometric and Early Geometric periods; later examples (e.g. Tiryns, i, p. 147, Fig. 13) are rare. Cf. Schweitzer, *Untersuchungen z. Chronol. d. geom. Stile*, p. 18 and note 87.

<sup>2</sup> The potter has attempted to combine the form of the trefoil-lipped jug and the conical foot proper to the Stemmed Kraters (Class 20), with a not very happy result. The experiment does not appear to have been made elsewhere.

<sup>3</sup> The inclusion of the vase in this class is based on the type of shoulder-decoration and the form of handle.

60. Ht. 28·5 cm. *Tomb V* (?). The central semicircle in each group has 'hour-glass' filling. Good black glaze with metallic lustre. By the painter of 45.

61. Ht. 31·5 cm. On the back, a group of parallel vertical stripes at the side of the handle. The semicircles have 'hour-glass' filling; the body is blacked, with several reserved bands. Greenish-grey with black glaze. (Not illustrated.)

62. Ht. 26 cm. *Tomb VI*. The concentric circles have no central filling; a horizontal band passes through their lower ends, as in 75. Light buff with black-brown glaze. (Not illustrated.)

63. Ht. 31 cm. Similar, but with four reserved bands below the shoulder, another lower down. In the lower part of the side a large dent, due, as is shewn by the mottled surface, to pressure of another vase in the kiln. Red with good black glaze. (Not illustrated.)

64. Ht. 20 cm. *Tomb I*. The glaze stops short of the foot; no loop at the base of the handle. Reddish with thin streaky reddish glaze.

65. Ht. 20·5 cm. *Tomb VI*. Reddish with black metallic glaze.

66. Ht. 27 cm. *Tomb V*. Note the ovoid shape. On the handle the stripes do not cross, but converge near the top and continue as a single line to the base of the handle. Warm buff with brown glaze.

67. Ht. 29 cm. *Tomb III*. Band inside the lip. The central semicircle of each group is filled with a carelessly-drawn solid triangle. Pale buff with metallic chocolate glaze.

68. Ht. 11 cm. *Tomb II*. Band inside the lip. The glaze stops short of the foot. Reddish clay with thin red glaze, carelessly applied.

69. Ht. 13 cm. *Tomb VI*. Flat base, and side-spout.<sup>1</sup> Completely coated with red-brown glaze except for a small reserved zone round the base.

#### Class 10. Jugs with tall necks and splaying lips. (Pl. V, and Fig. 9.)

With the exception of No. 73, the fabric and decoration are much as in the last class. There is, however, no loop round the base of the handles.

70. Ht. 29 cm. *Tomb III*. Band inside the lip. Crossing stripes on the handle, as in the last group. Metallic glaze.<sup>2</sup> Neck decoration, see Fig. 19.

71. Ht. 27·5 cm. The inside of the splaying lip is slightly concave. The neck expands towards the base, and is shorter than in other vases of this group: the handle is oval in section. On the inside of the lip, a band. The groups of semicircles have solid centres: three overlap. They rest on a broad zone, below which are two narrow zones. The rest of the body is plain, but the foot is glazed. Light buff with thick bright-red glaze. Careful execution.

<sup>1</sup> Cf. another Protogeometric example of this shape, *Tiryns*, i, Pl. xvi, 10; also the spouted jug from Camirus, *Jahrb.* i, p. 136.

<sup>2</sup> A jug from Tenos, described by Graindor in *Musée Belge*, 1907, p. 42, No. 1 seems to be very similar.

(In fabric and colour, as well as in shape, this vase differs from any found at Marmáriane, but resembles one, not yet published, from Moustaphakli.)

72. Ht. 13 cm. *Tomb II.* The handle has bars. Buff with black to brown glaze.

73. Ht. 12 cm. Slightly cupped base. Reddish-brown with glaze of the same colour.<sup>1</sup>

Class II. *Amphorae.* (Pls. V, VIa, b, Figs. 10, 11.)

This class really falls into three divisions. Nos. 74 and 75 are in fabric and decoration similar to Nos. 70 and 71, and, save for the addition of a second handle, in shape also. Nos. 76-80, on the other hand, are large coarse vases, and are further distinguished from all the other wheel-made vases by the large



72                    73  
FIG. 9.—CLASS IO.

extent of their unglazed surface. Finally, in Nos. 81 and 82 the handles are set entirely on the shoulder. All except 81-2 have a low ring base.<sup>2</sup>

74. Ht. unknown. *Tomb VI.* Known to us only from a photograph. The moulded lip is noteworthy. On the neck are three panels, the central one of which has a chain of solid triangles, point downwards (Fig. 20, 2). For the shoulder decoration compare No. 31.

<sup>1</sup> The shape of these two miniature vases is derived from the common Mycenaean round-mouthed jug, a type which also survived in the Protogeometric fabrics of the South.

<sup>2</sup> Amphorae of all three types are found in other Protogeometric fabrics. Nos. 74-5 call for little comment: the handles, in accordance with Iron Age practice, join the neck just below the rim. The large vases 76-80 are the only examples of coarse ware from Marmáriane, but the type can be very closely paralleled in Macedonia (*Vardarófisa*, Fig. 14, No. 7). The coarse clay and large expanse of unpainted surface doubtless had a practical purpose, for the resulting porosity would help to keep the contents cool in hot weather. The last type is one which appears in numerous Early Iron Age fabrics, in a great variety of forms, ranging from a squat neckless jar such as *B.S.A.* xviii, p. 5, Fig. 3, No. 5, to the tall trumpet-necked amphora of the Early Attic Geometric style. Between these two extremes the Marmáriane vases occupy an intermediate position.

75. Ht. 32·5 cm. The handles have the usual crossing stripes and loops. Greenish-grey with black glaze.

76. Ht. unknown. *Tomb VI.* Known to us only from a photograph. On the shoulder, groups of concentric semicircles, through the lower part of which pass two narrow glazed zones; below them is a broad zone, and below that (apparently) another; the rest of the decoration is not clear.

77. Ht. 44 cm. Mended in nine places: the back is dented. On the



76  
FIG. 10.—CLASS II.



80  
FIG. 11.—CLASS II.

shoulder, almost complete concentric circles. On the back they are not symmetrically disposed, but crowded together (two overlap), leaving an unfilled space near one handle: three vertical stripes on each handle continue down the body. Dull grey above, reddish below, grey in the fracture: black glaze.

78. Ht. 45 cm. On the handles, crossing stripes, the ends of which are continued down the body. Fabric as last.

79. Ht. (as restored) 43 cm. *Tomb VI.* The foot is glazed. Fabric and decoration as last.

80. Ht. unknown. *Tomb V.* Known to us from a photograph only.

On the shoulder, groups of seven almost complete concentric circles, which seem to have some kind of central filling.

81. Ht. 20 cm. *Tomb V.* No ring-foot, the base being flat. The inside of the neck is glazed and there are groups of bars on the lip. Diagonal bars on the handles, and loops round their bases. The concentric threequarter-circles are not symmetrically formed, the central one in each case resembling a spiral. Buff with poor black glaze, much perished.

82. Ht. 10·5 cm. Base as in last. Reddish, completely coated with reddish-brown glaze.

*Class 12. One-handled cups.<sup>1</sup> (Pl. VIb.)*

With four exceptions, these cups have flat bases: a flat handle unites rim and body. All except two are coated with glaze inside; outside, however, the glaze stops short of the base. The inside of the handle is also unglazed, and there is usually a reserved zone round the lip. Some have in addition a reserved central disc on the inside. Clay and glaze as in Classes 8-10.

- 83. Ht. 6·5 cm. Low ring foot.
- 84. Ht. 7·5 cm. *Tomb V.* Metallic glaze.
- 85. Ht. 7·5 cm. Chocolate glaze.
- 86. Ht. 6 cm. Reddish-brown glaze.
- 87. Ht. 7 cm. Red glaze. (Not illustrated.)
- 88. Ht. 5·5 cm.
- 89. Ht. 8 cm. Tapers to a short stem with a small flat base. Just below the shoulder, a reserved zone: otherwise completely glazed.
- 90. Ht. 8·5 cm. *Tomb VI.* Has a low ring-foot.
- 91. Ht. 9·5 cm. *Tomb V.* Low foot; 'trigger' handle.<sup>2</sup> Below the lip four grooved rings. Grey, with deep black glaze.
- 92. Ht. 10 cm. *Tomb VI.* Shape as last, but less globular, and there is no foot. Two grooved rings below the lip. Buff with metallic glaze.

*Class 13. Two-handled cups. (Fig. 12.)*

These are the wheel-made counterparts of Classes 5 and 6.<sup>3</sup> Most are completely coated with glaze except for a reserved band above the base, and eight of them have a central reserved disc in the inside. The under-side of the handles is usually left unglazed.

- 93. Ht. 11 cm. Two rivet-holes below the lip, and five in the lower part

<sup>1</sup> Of Mycenaean origin, this shape enjoyed great popularity throughout the Early Iron Age. In the Protogeometric period, both in Thessaly and in south Greece, it is often placed on a high conical foot, which, unlike that of No. 89, is usually hollow.

<sup>2</sup> For the history of this kind of handle cf. p. 46 and note 2.

<sup>3</sup> This is even more clearly shewn by a glaze-painted bowl of this type from Theotókou, P.T. Fig. 145 g.

of the body. There is a reserved band on the inside of the lip, and on the shoulder. Brown metallic glaze.

- 94. Ht. 9 cm. *Tomb VI.* Central disc inside.
  - 95. Ht. 10 cm. Red glaze.
  - 96. Ht. 10 cm. *Tomb VI.* Brown glaze, with a red patch.
  - 97. Ht. 9 cm. Black glaze, much perished.
  - 98. Ht. 10 cm. Brown glaze.
  - 99. Ht. 10 cm. Red glaze.
  - 100. Ht. 10 cm. Mottled glaze outside, brown inside.
  - 101. Ht. 9 cm. Central disc inside.
  - 102. Ht. 9.5 cm. *Tomb VI.* Mottled glaze.
  - 103. Ht. 7 cm. Brown glaze.
  - 104. Ht. 8.5 cm. Central disc inside. Reddish-brown glaze.
  - 105. Ht. 8.5 cm. Black glaze, much perished.
  - 106. Ht. 9.5 cm. *Tomb I.* The handles are decorated, the sides facing inwards bearing four vertical stripes, while those facing outwards are glazed. Body completely glazed.
  - 107. Ht. 6 cm. On the collar, horizontal double zigzag, running right round; stripes on the edges of the handles; central disc inside. Otherwise completely covered with very metallic glaze.
  - 108. Ht. 6 cm. Chocolate glaze.
  - 109. Ht. 7.5 cm. On the back of the vase, a ladder pattern beside one handle. Central disc inside.
  - 110. Ht. 12.5 cm. This vase and the following have low ring-bases. Reddish-buff with reddish-brown glaze.
  - 111. Ht. 13 cm. Similar to last. Light buff with brown glaze.
  - 112. Ht. unknown. Fragment of vase similar to last. The triangles are bordered. Black metallic glaze.
- There is a vase of this class, from Marmáriane, with identical decoration, in the Boston Museum of Fine Arts.<sup>1</sup>
113. Ht. unknown. *Tomb V.* Known to us from a photograph only. Flat base and rolled handles.

(Not  
illustrated.)

#### Class 14. *Skyphoi.* (Fig. 12 and Pl. VII.)

All except No. 118 have low ring-bases. The decoration, two groups of pendent concentric semicircles on each face, is found on all except No. 114. A stripe runs along the front of the handles and ends in downward streamers. The interior is glazed, but three have a central reserved disc. Fabric and glaze as in the other wheel-made classes.

- 114. Ht. 8 cm. Reddish, completely coated with brown glaze. Central disc inside.

<sup>1</sup> Fairbanks, *Catalogue of Greek and Etruscan Vases*, Pl. xix, No. 257. (*Tomb VI.*)

115. Ht. 9 cm. *Tomb V.* The base is cupped. The semicircles overlap. Buff with thinned brown glaze for the semicircles, thick brown for the rest. Careful execution.

116. Ht. 10 cm. Similar design. Buff with red glaze; discoloured patches. By the painter of No. 37. (Not illustrated.)

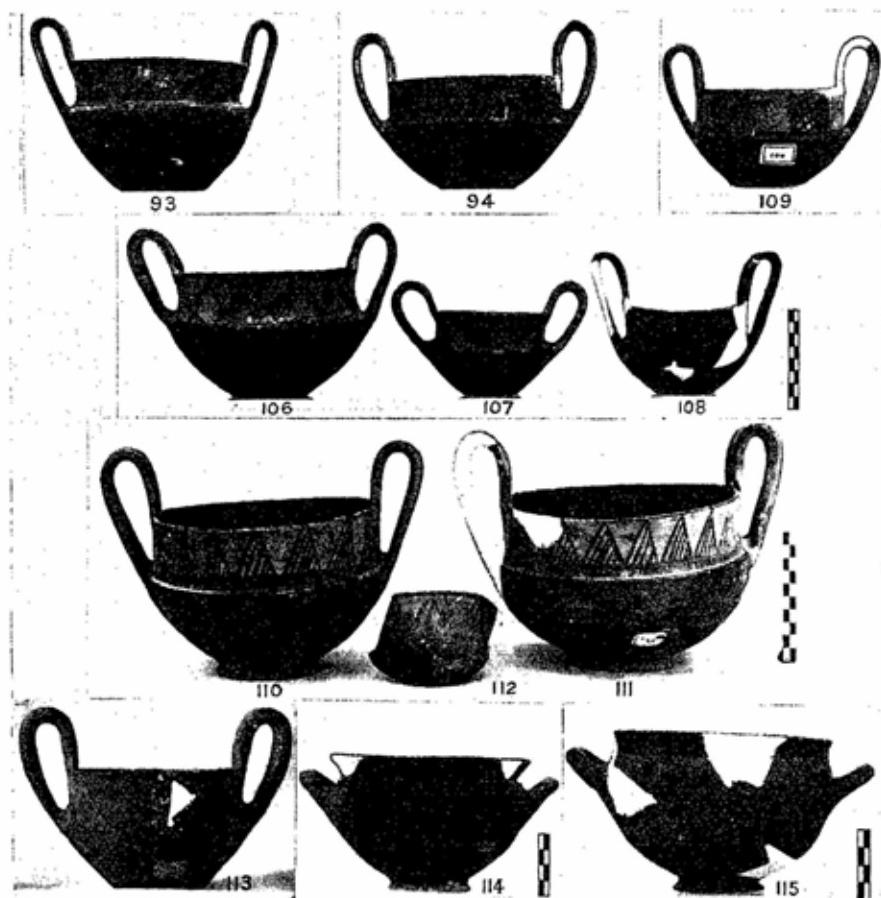


FIG. 12.—CLASSES 13, 14.

117. Ht. 9 cm. Overlapping semicircles. Buff with pinkish glaze.

118. Ht. 9·5 cm. Flat base. The glaze stops short of the base. The innermost circles in each group resemble spirals, as in No. 81. Orange with reddish paint.

119. Ht. 11·5 cm. Reddish-buff with brown-red glaze, turning to red in places.

120. Ht. 10·5 cm. Brown glaze, turning to red on the back. Very coarse clay.

121. Ht. 11 cm. The stripe on each handle ends in double streamers. Warm buff with brown and reddish glaze.

122. Ht. 8·5 cm. *Tomb VI.* Central disc inside.

There is a vase of this class, from Marmáriane, in the National Museum, Copenhagen.<sup>1</sup>

Class 15. *Stemmed Skyphoi.*<sup>2</sup> (Pl. VII.)

123. Ht. 11 cm. The foot has a cupped base. Glazed inside, except for reserved central disc. The handles have a thin stripe ending in streamers: diagonal stripe in space behind handles. Warm buff with chocolate glaze. Neat technique.

124. Ht. unknown. *Tomb V.* Known to us only from a photograph and a small fragment of lip and shoulder. On the inside of the lip, a reserved band: on the body, two groups of concentric circles separated by a ladder. The handles and lower part seem to be completely glazed. Red with black glaze.

Class 16. *Bowl with two flat vertical handles.*<sup>3</sup> (Pl. VII.)

125. Ht. 11 cm. Dull red. The surface, originally covered with a thin polished slip, is now rough.

Class 17. *Three-handled dish.*<sup>4</sup> (Pl. VIII.)

126. Ht. 2·5 cm., diam. 18·5 cm. *Tomb VI.* Rolled handles. Rim and handles barred. The inside shews the same decoration as the underside, but the central medallion is only 8 cm. in diameter, the rest of the space being glazed. Buff with red glaze.

<sup>1</sup> CVA Copenhagen ii, Pl. 66, No. 4.

<sup>2</sup> A common L.H. III shape, the stem being identical with some Mycenaean kylix-stems. Another Protogeometric example (unpublished) comes from Orchomenos.

<sup>3</sup> A bowl of similar shape, but in a grey *bucchero* fabric, was found in the Protogeometric graves on Tenos (*Annuario*, 1925–6, p. 224, Fig. 26).

<sup>4</sup> This dish is of some interest, as the shape is that of the *kavos* or food-basket familiar in the Homeric poems. In later times, it is true, its ritual overshadowed its secular use; but it is probably merely as a food-vessel, or a representation of one, that it appears here and in other tombs of the Early Iron Age. Cf. Pauly-Wissowa-Kroll, *Real-Encycl. Suppl.-Bd. 4 s.v. kavos.* Deubner's study (*Jahrb.* xl, pp. 210 ff.) includes a list of clay examples, to which should be added:—

Argive Heraeum. L.H. III. Two Miniature vases. Unpublished and mentioned by kind permission of Dr. Blegen.

Rhodes. L.H. III. (1) *Annuario*, 1923–4, p. 143. Tomb xxi, No. 37 (two handles only).

(2) *Clara Rhodos*, iii, p. 90, Fig. 80.

Athens. Protogeometric. CVA Cambridge, Pl. 1, No. 13.

Thebes. L.H. III. *'Αρχ. Δελτ.* 1917, Fig. 94.

Class 18. *Two-handled dishes.* (Pl. VIII.)

(a) : with flat horizontal lugs.

127. Ht. 4·5 cm., diam. 16·5 cm. *Tomb VI.* One lug, which on the analogy of No. 128 was pierced, is missing. On lip, bars in groups of six. The lug and the whole of the inside is glazed, except for a reserved disc in the centre. Buff with black metallic glaze.

128. Ht. 4 cm., diam. 18 cm. *Tomb VI.* One lug is pierced. Lip barred, inside glazed. Buff with black metallic glaze. Companion piece to No. 129.

129. Ht. 4 cm., diam. 16·5 cm. *Tomb VI.* Same shape as last. Lip barred, lug and inside glazed. Buff with red-brown glaze. Companion piece to No. 128.

(b) : with slanting strip handles.

130. Ht. 5 cm., diam. 13·5 cm. Dark grey clay completely coated with black glaze.<sup>1</sup>

(c) : with loop-handles with upturned terminals.

131. Ht. 5 cm., diam. 14 cm. *Tomb I.* Two deep grooved rings just below the lip and two just above the foot. Painted all over with dull reddish-brown glaze.

Class 19. *Askos.* (Pl. VIII.)

132. Ht. 16 cm. *Tomb I.* Back of handle and spout including lip are glazed. Buff with black glaze.

Class 20. *Stemmed Kraters.* (Pls. VIII, IX, X, XI, and Fig. 13.)

These kraters fall into two groups; those of the first are raised on high stems and fitted with four band-handles, vertically placed and reaching from body to rim; those of the second group have two rolled handles, usually of the double type, set on horizontally, and a low stem or foot. But the distinction is not always kept; thus, No. 136 has not only two rim-handles and a high stem, which attach it to the first group, but also two horizontal rolled handles, which are characteristic of the second. No. 138 is another vase which unites rolled handles with a high stem.

In all cases the stems are hollow, the inside of the vessel is glazed, and

<sup>1</sup> The *bucchero* fabric of this vase and of No. 91 is found occasionally in Thessaly. Though it appears to have no connection with East-Greek *bucchero*, it may well be similarly derived from Minyan prototypes (see *J.H.S.* iii, p. 1). In any case, it is closely allied to the grey monochrome pottery of Macedonia (*Vardarófisa*, p. 28). Many one-handled cups in this grey fabric were found in the Iron Age tholos near Volo, recalling similar cups from Thera (*Thera*, ii, p. 230; *Ath. Mitt.* 1903, pp. 212-3), and wheel-made jugs with cut-away necks come from the same tomb and from the Hálos pyres. A similar fabric is found in Skyros (*Ἄρχ. Δελτ.* 1918, *Παράρημα* 1, pp. 34 ff., Fig. 10, Nos. 1-4). In all these cases it should be noted that it is the grey clay which is the distinguishing mark of the fabric, and not the black paint, which is in fact often absent. The form is of Mycenaean origin.

streamers are painted down the handles. Fabric and glaze as in the other wheel-made classes.<sup>1</sup>

133. Ht. 17·5 cm. *Tomb III.* On lip, bars in pairs. Buff with red-brown glaze.

134. Ht. 37·5 cm. On the lip, bars in groups of six: handles glazed. The spaces between the handles, on the side not illustrated, have only three latticed panels each. On the under-side of the body is a zone of pendent latticed triangles, and on the stem four groups of concentric semicircles. Red with red glaze: careless execution.

135. Ht. 36·5 cm. The bridge handle seems to be a combination of the rolled and rim handles; its final development is the column Krater. On the lip are 55 outlined triangles and one plain one; below the lip a moulded band with bars; on the upper part of the handles four rows of outlined triangles; on the back the panels are filled, as on the front, with alternating 'butterfly' ornament and stepped band, one of the latter being modified for want of space (Fig. 20, 6). On the stem above the latticing a zone of outlined triangles; the under-side of the foot is decorated with two rings joined by groups of bars. Very light buff surface with black glaze, turned red on one side.

136. Ht. 41 cm. Two 'spur' handles.<sup>2</sup> The lip has bars: below each 'spur' handle, a bordered row of outlined triangles. Pinkish buff with red glaze.

137. Ht. 36 cm. *Tomb V.* Lip barred; the glaze on the handles is continued downwards in a broad stripe; each group of concentric circles is separated from the next by a handle and two narrow panels; of these, one is latticed, three have opposing groups of stripes, and four have chains of outlined latticed lozenges.

<sup>1</sup> The great size and elaborate decoration of the Marmáriane kraters shew that they do not stand at the beginning of a series, but represent a developed type. The mere task of throwing successfully such huge vases is an exacting one, and implies a long previous tradition. But the immediate predecessors of the type cannot yet be identified with any certainty. It is simplest to regard the first group as derived from the large pedestalled bowls (*B.M. Cat.* Vol. I, Pt. 1, A. 874-5); the second group as gigantic stemmed skyphoi (our Class 15). Other examples of the shape in Thessaly do not add much to our knowledge; a large number were found in the Iron Age tholos at Volo; some of these have strongly ribbed stems, proving that the ribbed stems from the Hállos pyres (*B.S.A.* xviii, p. 23: Pyres II, VIII-X, XII-XIV), which the excavators were unable to assign to any definite vase-shape, belonged in reality to large kraters of this type. This ribbing may indicate the same survival of Minyan influence which we have traced in the raking handles of Classes 5 and 6 here.

<sup>2</sup> The spur-handle is found occasionally in L.H. III pottery, especially on deep kylikes, where it serves the purpose of a thumb-grip. See *Mykenische Vasen*, Pl. xi. 70 (Ialyssos), *Annuario*, 1923-4, Tomb liii. 3 (Ialyssos), *CVA Copenhagen* ii, Pl. 50, 2 (Rhodes), *Fouilles de Delphes*, II, Fasc. 5, Fig. 41, 19 (Pronaia sanctuary). It is also found on a stemmed bowl from Vrókastro (*Vrókastro*, Pl. xxv, 2), which may be classed as Protogeometric; a footless krater, of unknown provenience, in Athens (Collignon-Couvé, *Cat. des Vases peints*, No. 148), belongs to the same period. It occurs on a Geometric bowl from the Kynosarges published in *B.S.A.* xii, p. 85, (j) Fig. 6. For the antecedents of this handle cf. p. 47, and notes 1-3.

138. Ht. 42 cm. *Tomb V.* Single rolled handles. Barred lip : between the groups of concentric circles, bordered latticed panels or chains of latticed lozenges. Buff with much-perished black glaze.

139. Ht. 37 cm. *Tomb VI.* Barred lip ; the handles, which are glazed, have three streamers each ; there are five panels on each face, two of which are completely latticed ; the others contain three registers, which are either latticed or have opposed latticed triangles. Reddish with much-perished brown glaze. Careless execution.

140. Ht. 34 cm. Stem and base almost coalesce, forming a conical foot. Lip barred ; three grooved rings above the handle ; on a line with the handles, a reserved zone filled with opposing groups of twelve oblique lines each ; on the plastic terminal of the central arm of the handles, bars ; narrow reserved zone at edge of foot. Red with red glaze. Probably by the painter of Nos. 42 and 59.

141. Ht. 38 cm. *Tomb V.* On the stem, a moulded ridge. Each of the usual streamers is bordered by two fine parallel lines. Buff with black-brown glaze turned to red on one side. Neat execution.

142. Ht. 36·5 cm. *Tomb V.* Barred lip : the latticed lozenges in the panels between the groups of concentric circles are all, except in one case, outlined. Deep buff with black glaze, both much discoloured by fire.

143. Ht. 41 cm. Moulded ridge on foot. The space below the handles contains a solid stepped band. Buff with black glaze, turned to red on one side. Careful execution.

144. Ht. 45 cm. The inside is not completely glazed, a broad band being reserved half-way down ; on the lip twenty-seven groups of four bars each ; the space between the eighth and ninth concentric circles occurs in each of the six groups ; the lozenges in the end panel on one side are solid ; the outside streamers are bounded by two fine lines each. Buff with red glaze, black-brown in places.

145. Ht. 36·5 cm. *Tomb V.* Broad bars on lip ; on the back, one panel contains groups of opposing lines, two contain compound zigzags, and one a ladder. Buff with black glaze, turning to red in places.

146. Ht. 39 cm. On lip, broad bars in groups of two or three : the central arm of each handle is formed by two moulded ridges, with two streamers each. Light buff with red to black-grown glaze.

147. Ht. 41 cm. *Tomb VI.* On lip, thin bars ; on the back, only two groups of concentric circles and three panels, one of which is latticed while the others have compound zigzags ; as on the front, one of the groups has three vertical stripes above and below. Light buff with purplish-brown glaze.

148. Ht. 39 cm. *Tomb VI.* Two plastic rings on foot. On the lip, groups of seven or eight bars each ; the narrow panel on the extreme right contains latticed lozenges ; on the back, one panel contains solid, four contain latticed lozenges. Buff with black glaze.

149. Ht. 39·6 cm. *Tomb V.* Stepped foot. On the lip, broad bars ; on

the back, the panels between the groups of concentric circles are filled, one with solid, one with latticed lozenges, and one with opposing groups of oblique lines. On each face, between the right-hand group of circles and the handle, is interposed a short panel containing latticed lozenges (Fig. 20, 5). Lip, body and foot have been mended in various places with lead rivets. Warm buff with black glaze.

150. Ht. unknown. *Tomb V.* Known to us from a photograph only. Two groups of concentric circles separated by a latticed panel and flanked by a vertical stepped band in quadruple outline (as in No. 135) can be distinguished. The rest of the decoration is not clear.



150  
FIG. 13.—CLASS 20.

### § 3. OBJECTS OF METAL, STONE, ETC.<sup>1</sup>

*Gold.* (Fig. 14.)

1. Hair-ring (?).<sup>2</sup> Diam. ca. 0·6 cm.: 0·4 cm. thick at one end, 0·3 cm. at the other. *Tomb II.* Coil of wire expanding towards one end.

<sup>1</sup> By suggesting parallels to various objects, Dr. G. Karo and Prof. V. Gordon Childe gave us much valuable assistance: for the beads Mr. H. Beck very kindly placed his special knowledge at our disposal.

<sup>2</sup> This kind of ornament, whatever its purpose, has a long history in the Aegean. Fairly close analogies to 1 and 2, but later, are Blinkenberg, *Lindos, Fouilles de l'Acropole*, I, Pl. 12, 271–274, and Clara Rhodos, III, Fig. 121. Analogies to 3 and 4, and roughly contemporary, are Marshall, *B.M. Cat. Jewellery*, Nos. 1214–5 from Tomb B at Assarlik. Cf. also *Ath. Mitt.* 1910, p. 30, Figs. 25, 26, 28 (Salamis). The latter, being in a sub-Mycenaean context, are a little earlier than ours.

2. Hair-ring (?). Diam. ca. 0·6 cm.: ca. 0·3 cm. at each end. *Tomb II.*  
Similar to last, but both ends expand slightly.

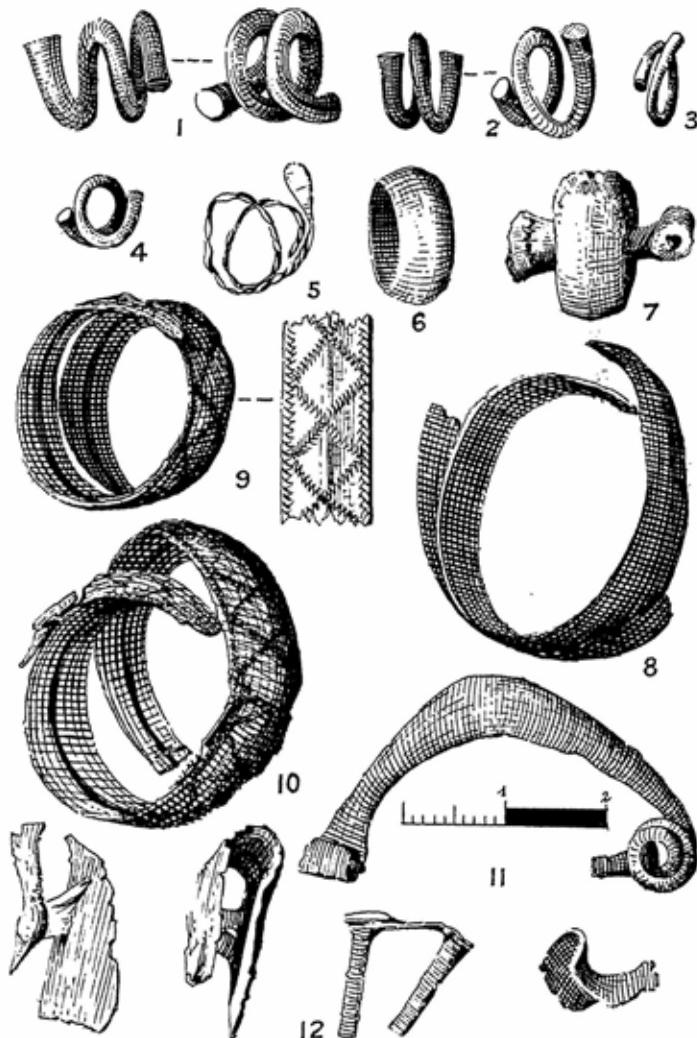


FIG. 14.—OBJECTS OF METAL: 1-5, GOLD; 9-12, BRONZE.  
(No. 12 is on twice the scale of Nos. 1-11.)

3, 4. Hair-rings (?). Diam. ca. 0·45 cm. and 0·35 cm. respectively: ca. 0·2 cm. thick at the ends. *Tomb II.*

5. Hair-ring. Diam. ca. 0·6 cm. *Tomb II.* One end broken: the other is flattened. Thin twisted wire.

*Bronze.* (Fig. 14.)

6. Finger-ring.<sup>1</sup> Diam. 2 cm. *Tomb V.*
7. Finger-ring. Diam. 2 cm. *Tomb VI.*
8. Armlet.<sup>2</sup> Width 1·5 cm.: present diam. of inner coil *ca.* 5·5 cm. *Tomb I.* Tapering ends: middle part missing.
9. Armlet. Width *ca.* 1·7 cm.: present diam. *ca.* 3·7 cm. *Tomb II.* Incised *tremolierstich*<sup>3</sup> decoration: a central rib runs along the outside, raised by chiselling from the inside.
10. Armlet. Width *ca.* 1·7 cm.: present diam. *ca.* 4 cm. *Tomb I.* Similar to last, but more corroded. In the drawing the decoration is restored from a small preserved part.
11. Fibula.<sup>4</sup> Length 7·8 cm. *Tomb VI.* The original pin having been broken off at the spring-coil, an iron one has been substituted (now broken).<sup>5</sup>
12. Fragments of bronze leaf with rivets. *Tomb VI.* What the object plated was it is hard to say. The length of the rivets (either 1·2 cm. or 0·6 cm.) shews that it was thicker in some places than others. There are pieces of wood adhering to the rivets.

*Iron.* (Fig. 15.)

13. Spectacle-fibula.<sup>6</sup> Width 13·3 cm. *Tomb I.* Broken at the loop:

<sup>1</sup> For similar bronze rings found in tombs cf. *Ath. Mitt. loc. cit.* Figs. 18, 21 (sub-Mycenaean): *P.T.* p. 213 (Protogeometric): also Blinkenberg, *op. cit.* p. 119.

<sup>2</sup> For similar armlets cf. *B.S.A.* xxiv. p. 14, Fig. 10, from Chauchitza, which, however, are later, and Childe, *Danube in Prehistory*, Figs. 173, 177. As being a Lausitz ornament, it is easy to understand how this type of armlet entered Macedonia and Thessaly.

<sup>3</sup> The origin of the *tremolierstich* ornament is doubtful. Both a northern and southern origin have been claimed for it. The fact that it is commonly found on Late Macedonian Bronze Age matt-painted pottery is, however, perhaps significant of the direction from which it entered Greece. Cf. Rey, *B.C.H.* xli-xliii, Pls. XXVIII, 7, XXXI, 2, XXXII, 1, 3, 5. It looks as if, not being an ornament which lends itself naturally to the brush, it had been taken over from metallurgy by the Macedonian potters and, if so, the existence at any earlier date than the Marmáriane armlets, of Macedonian bronzes bearing this decoration may be inferred. In any case, the context at Marmáriane shews that here are the earliest examples of this motive in Greece. For later examples, *inter alia*, cf. Olympia IV, Tafel XVIII, 297, 298, Tafel XXIII, 380. For the method by which the design was executed, *viz.* by rocking, and at the same time pressing forward, a small gouge, so that it 'walks' over the metal surface, cf. *A.J.A.* xv. (1911), p. 10; *Reallexicon der Vorgeschichte*, II, p. 178.

<sup>4</sup> Blinkenberg's Type II, *Fibules à arc symétrique*. Cf. Blinkenberg, *Fibules grecs et orientales*, pp. 60-72.

<sup>5</sup> For bronze fibulae repaired with iron pins cf. *ibid.* pp. 117, 125; *Πρ.* 1911, p. 298.

<sup>6</sup> For iron fibulae cf. Blinkenberg, *op.cit.* pp. 34, 35 and p. 302. An iron fibula was inferred at Theotókou (*P.T.* p. 213). For spectacle-fibulae of iron we can find no parallels except from Tomb 3 at Sesklo, where some broken examples appear to have been found (misinterpreted by Arvanitopoulos as breast-ornaments: *Πρ.* 1911, p. 298).

part of the pin is missing. On the front, remains of two bronze bosses;<sup>1</sup> impressions of the stuff of some garment are visible on the same side.<sup>2</sup>

14. Spectacle-fibula. One disc only. Width 6·3 cm. *Tomb V.* Similar to last. On the back, traces of the rivet by which the bronze boss was attached: the same rivet may have served as a catch for the pin.

15. Spectacle-fibula. One disc only. Width 5·7 cm. *Tomb III.* The bronze boss is plated with gold leaf.

16. Pin. *Tomb I.* Base of pin of spectacle-fibula (?) attached to a coil of bronze wire.

17. Pin. Point missing: present length 20·9 cm. *Tomb III.* Pierced cylindrical head.<sup>3</sup>

18. Pin. Similar to last: present length 12 cm. *Tomb VI.* There are fragments of similar (?) pins from *Tombs V and VI.*

19, 20. Finger-rings.<sup>4</sup> Diam. 2 cm. *Tomb VI.* Another (broken) was found in the same tomb, two in *Tomb I*, and one in *Tomb III.* Of two others, it is not known to which tomb they belong. All are of the same form and size, except one, which is ca. 1·7 cm. in diameter.

21. Finger-ring. Diam. 1·3 cm. *Tomb II.* Angular in section.

22. Sword.<sup>5</sup> Length 27 cm. Greatest width ca. 3·6 cm., at broken end ca. 2·3 cm. End of hilt and end of blade missing. *Tomb VI.* One rivet is preserved at the end of the hilt, and perhaps another at one side where flange and blade coalesce. According to Dr. Leonards's description the rivets had bronze heads. On the hilt, the impress of the wooden side-pieces is preserved in places. The metal is so corroded that it is impossible to determine the section of the blade.

23. Knife. Present length 14 cm.: greatest width ca. 2 cm. Handle and tip of blade missing. Convex edge. *Tomb VI.*

From *Tomb VI* come also fragments of two similar knives: fragment of a spear-head (?): tang and part of the blade of a knife (width ca. 0·9 cm.): various indeterminate fragments.

<sup>1</sup> Spectacle-fibulae with bosses have, as far as we know, not been found elsewhere in the Aegean, but they are common in Central Europe, where they may be quite late. Cf. Åberg, *Bronzezeitliche u. früheisenzeitliche Chronologie*, II, Fig. 180, and for a more elaborate example, *ibid.* Fig. 218. Discs with omphalos (Childe, *op. cit.* Pl. XIV, A 4), the wires on Hungarian gold discs (*ibid.* p. 330), the wire helices (*ibid.* Pl. XIV, A 1) and the spiked *tutulus* discs (*ibid.* A 2), as well as the warts on the Lausitz pottery, may be compared, and these, in their earlier phases, are all prior to Marmáriane. The principle of the bossed disc, whether shield or ornament, is certainly Central European, and, in the Aegean, exotic.

<sup>2</sup> Cf. *P. T.* p. 213.

<sup>3</sup> The purpose of these pins is obscure. Iron stick-pins have been found in Proto-geometric graves at Theotókou (*P. T.* p. 213), Tiryns (*Tiryns*, I, pp. 128 f., Tombs 1, 2, 7, 10(?)) and Athens (*Ill. Lond. News*, 25 June, 1932, pp. 1060 ff., Fig. 13).

<sup>4</sup> Cf. 'Εφ'Αρχ. 1898, p. 110, where they are described as hair-rings.

<sup>5</sup> For iron swords of similar type cf. *A.J.A.* v. p. 137, Fig. 4 (Kavousi), which is roughly contemporary with ours, and *B.S.A.* xviii, p. 27, Fig. 15, 2 (Pyre XIV at Hálós), which is somewhat later.

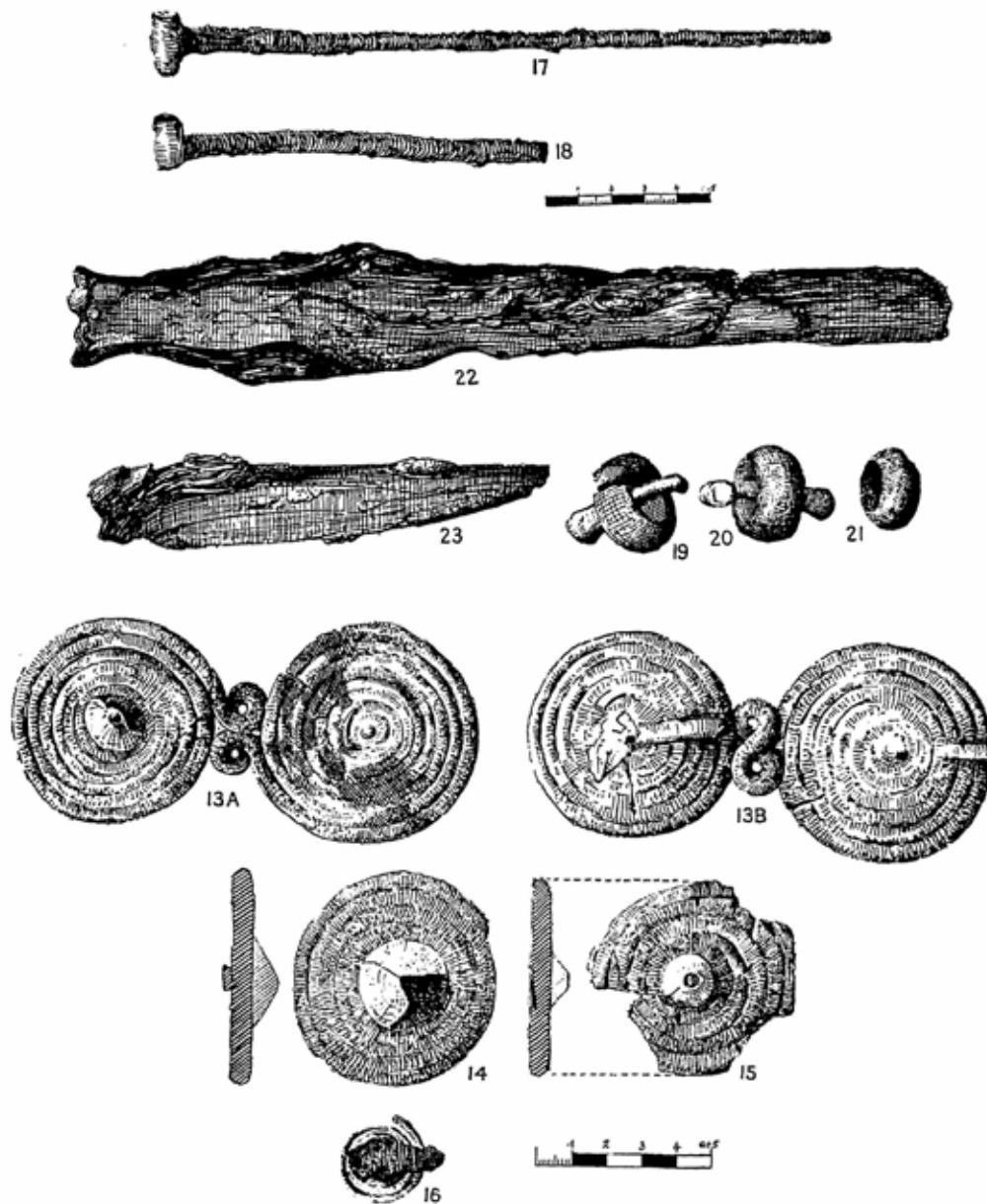


FIG. 15.—OBJECTS OF METAL: IRON.

(Nos. 19–21 are on twice the scale of Nos. 17, 18, 22, 23.)

From *Tomb I*: fragment of a curved knife with wooden hilt (width *ca.* 1.5 cm.): tip of a straight knife.

*Stone.* (Fig. 16.)

24. Pommel (?). Diam. 4 cm. *Tomb V.* Whitish marble. The knob is broken off. Pierced transversely on one side in three places, on the other side in one, but only once successfully.

25. Sling bullet. Length 6.5 cm. *Tomb V.*

26. Pounder or hammer. Width of broad side *ca.* 5.5 cm., of narrow side *ca.* 4.5 cm. *Tomb V.* Cylindrical with four flattened sides, two of which have depressions of a roughly circular shape.

27-29. Beads or buttons. *Mycenaean Tomb.* Steatite.

30. Bead of rock-crystal.<sup>1</sup> Engraved on spherical face.

A flat object (*ca.* 8.5 cm. × *ca.* 5.5 cm.) pierced at one end, of very soft, flaky pinkish stone. Perhaps an amulet; it seems too soft for a whetstone.<sup>2</sup> Found either in *Tomb V* or *Tomb VI*.

Other stone objects found by Dr. Leonardos are mentioned on p. 10; the stone axe may have fallen in from the prehistoric settlement.

*Glass.* (Fig. 16.)

31. Flat circular beads. 20 from *Tomb II*, 875 from *Tomb V.* They are irregularly cut and vary a good deal in thickness. The colour is white or bluish-green.

32. Wire-drawn chevron bead.<sup>3</sup> *Tomb V.* Brown with white threads.

<sup>1</sup> Mr. H. Beck, to whom we shewed an illustration, says: 'This is difficult to place. Similarly shaped objects in steatite are found in the Eastern Mediterranean, but are not usually engraved. They are often of Mycenaean date.'

The design should be carefully distinguished from the cross with angle-fillings which has so long a history and so wide a distribution throughout the Near East. Parallels for the design on our gem are not common:

1. Steatite prism, Thebes, L.H. III. *'Αρχ. Δελτ.* 1917, Fig. 127, 23.

2. Green steatite. Psychro cave. Late Minoan. *'Εφ. 'Αρχ.* 1907, Pl. VIII, 118.

3. Scratched on the side of a beaked jug from the Iron Age tholos at Volo.

Gems have been found in other Thessalian tombs of the Iron Age, notably at Dranista, described by the excavator as 'particularly rich' in gems. The Volo tholos produced a single steatite seal, with meander decoration (*'Εφ. 'Αρχ.* 1914, p. 141); and three gemstones were found in Tomb 5 at Sesklo. For Mycenaean gems from Thessaly, cf. *P.T.* index, s.v.

<sup>2</sup> Cf. *Fouilles de Delphes*, v, p. 8, Fig. 24.

<sup>3</sup> Of this bead Mr. Beck writes: 'Beads of a similar type are not very uncommon. I have one on a string from Cumae not accurately dated, but of which most of the beads appear to be about sixth century B.C. I have undated specimens from Syria and Italy and a specimen from Britannia, which, although not identical, is of the same type and is supposed to date at least as early as the Hallstatt Period.'

*Clay.* (Fig. 16.)

- 33-35. *Beads or buttons.* *Mycenaean Tomb.* Biconical.  
 36. *Bead or button.* *Tomb V.* Hexagonal, spheroid; fluted.<sup>1</sup>

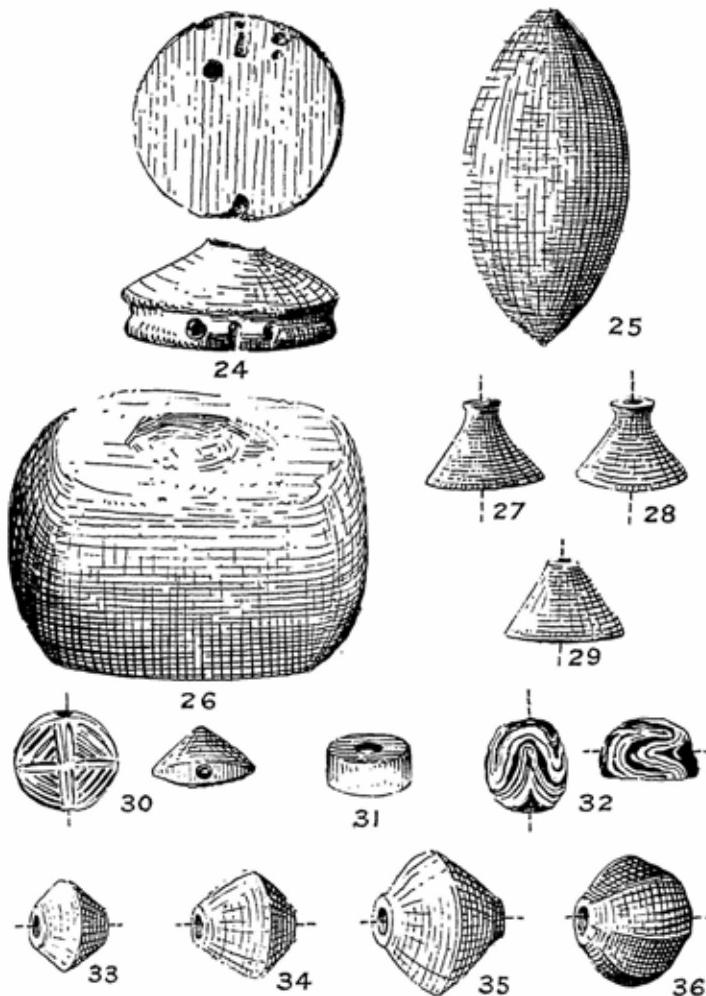


FIG. 16.—OBJECTS OF STONE, GLASS AND CLAY: 24-29, STONE; 30-32, GLASS; 33-36, CLAY.  
 (Scale 5 : 8.)

<sup>1</sup> Of this bead Mr. Beck writes: 'Without seeing the bead it is difficult to say much about it, as several totally different types of clay bead are found. Beads of this shape of a reddish clay are found round the Eastern Mediterranean. A number are found in Iron Age and Etruscan tombs in Italy. If the clay is black, it is probably similar to some of the *Bucchero nero* beads found in the Etruscan or similar tombs, some of which date to the ninth century B.C.'

	Tomb I.	Tomb II.	Tomb III.	Tomb IV.	Tomb V.	Tomb VI.	Myc. Tomb.
<i>Vases.</i>							
<i>Group I, Hand-made :</i>							
Class 1. Jugs with cut-away necks . . . . .				1		3	
2. Jugs with sloping necks . . . . .				1		1	
3. Bowls with triangular handles . . . . .							
4. One-handled cups . . . . .							
5. Two-handled cups (plain) . . . . .						1	
6. Two-handled cups (decorated) . . . . .						3	
<i>Group II, Mycenaean :</i>							
7. Jugs with cut-away necks . . . . .	I						sherds
<i>Group III, Protogeometric :</i>							
8. Jugs with cut-away necks . . . . .				4 (5?)		4 (5?)	
9. Jugs with trefoil lips . . . . .	I	I	I	4 (5?)		5	
10. Jugs with splaying lips . . . . .		I	I				
11. Amphorae . . . . .				2		3	
12. One-handled cups . . . . .				2		2	
13. Two-handled cups . . . . .	I			1		3	
14. Skyphoi . . . . .				1		1	
15. Stemmed skyphoi . . . . .							
16. Bowls with flat vertical handles . . . . .							
17. Dishes (three-handled) . . . . .						I	
18. Dishes (two-handled) (a), (b), (c) . . . . .		(c) I				(a) 3, (b) 1	
19. Askoi . . . . .	I						
20. Stemmed kraters . . . . .			I		7	3 (4?)	
<i>Objects of Metal, Stone, etc.</i>							
<i>Gold :</i> 1-5. Hair-rings . . . . .							
<i>Bronze :</i> 6, 7. Finger-rings . . . . .							
8-10. Armlets . . . . .	2	I					
11. Fibula . . . . .							
12. Fragments of bronze leaf . . . . .							
<i>Iron :</i> 13-15. Spectacle-fibulae . . . . .	I		I		I		
16-18. Pins . . . . .	I		I			I	
19-21. Finger-rings . . . . .	2	I	I			2	
22. Swords . . . . .						I	
23. Knives . . . . .	2					2 (and fragments)	
<i>Stone :</i> 24. Pommels . . . . .					I		
25. Sling bullet . . . . .					I		
26. Pounder . . . . .					I		
27-29. Buttons or beads . . . . .							3
30. Crystal bead . . . . .							
<i>Glass :</i> 31. Flatround beads . . . . .			20			875	
32. Chevron bead . . . . .					I		
<i>Clay :</i> 33-36. Buttons or beads . . . . .					I		
37. Sling bullet . . . . .					(fluted) 2		
Loom-weight . . . . .					1		3

37. *Sling-bullet.* Tomb V. Same shape as the stone example No. 26. Another was found in the same tomb.

In Tomb V was also found a clay loom-weight (?), shaped like a truncated pyramid, and bored near the top.

The diagram on p. 40 illustrates the distribution of the vases, etc., described above: 71 vases are thus accounted for with certainty, and all the small objects except 2 iron finger-rings and the crystal bead.

#### § 4. THE PROTOGEOMETRIC STYLE AT MARMARIANE.<sup>1</sup>

At the end of the Mycenaean age, when the Protogeometric style was coming into being throughout the Aegean, local hand-made matt-painted fabrics were still flourishing in North Greece. In Central Macedonia this local style was replaced at the very beginning of the Iron Age, partly by a wheel-made variety, partly by a hand-made incised ware, both of local character;<sup>2</sup> but in Western Macedonia<sup>3</sup> and in Thessaly<sup>4</sup> there was no interruption of the hand-made painted pottery at that time. An attempt has been made elsewhere to shew the inter-relationship of the various local styles and their common descent from the Early Bronze Age pottery of Macedonia and Thessaly, and need not be resumed here.<sup>5</sup> What is essential is to realise that this indigenous pottery, possessing in two localities at least a fairly elaborate rectilinear decoration,

<sup>1</sup> The scheme of classification formulated by Prof. Tsountas was only intended to cover the Neolithic and Bronze Ages; its extension by Wace and Thompson to include the Early Iron Age (*P.T.* pp. 18, 20–21) is not entirely satisfactory, and we have been unable to adopt it in the present report. The following table will serve to shew the relationship between the earlier systems and our own:—

<i>A-E.</i>	<i>P.T.</i>	<i>Marmáriane.</i>
<i>Γ 3.</i>	<i>Γ 3</i> (Bronze Age).	Local hand-made monochrome pottery:— (1) Native Thessalian. Classes 3–5. (2) Of Macedonian derivation. Class 1.
—	<i>Δ 2a</i> (Iron Age). }	
<i>Γ 1ε.</i>	<i>Mattmalerei.</i> <i>Δ 1β</i> (Lianokládi 3) }	(Bronze Age) (None.)
	<i>Δ 1γ</i> (Iron Age).	Local hand-made matt-painted pottery. Classes 2 and 6.
Mycenaean.	Mycenaean.	Mycenaean. Class 7.
Geometric.	<i>Δ 1α.</i>	Protogeometric. Classes 8–20.

<sup>2</sup> *Vardaróftsa*, pp. 25 ff.

<sup>3</sup> E.g. Bouboústi, Pátele, and sherds from Ochrid collected by Miss Benton, 1931.

<sup>4</sup> *P.T.* p. 215.

<sup>5</sup> *Bouboústi*, pp. 179 ff.

was sufficiently flourishing to be able to contribute to the formation of the local Protogeometric style.

It will, we think, be clear from the following analysis that those

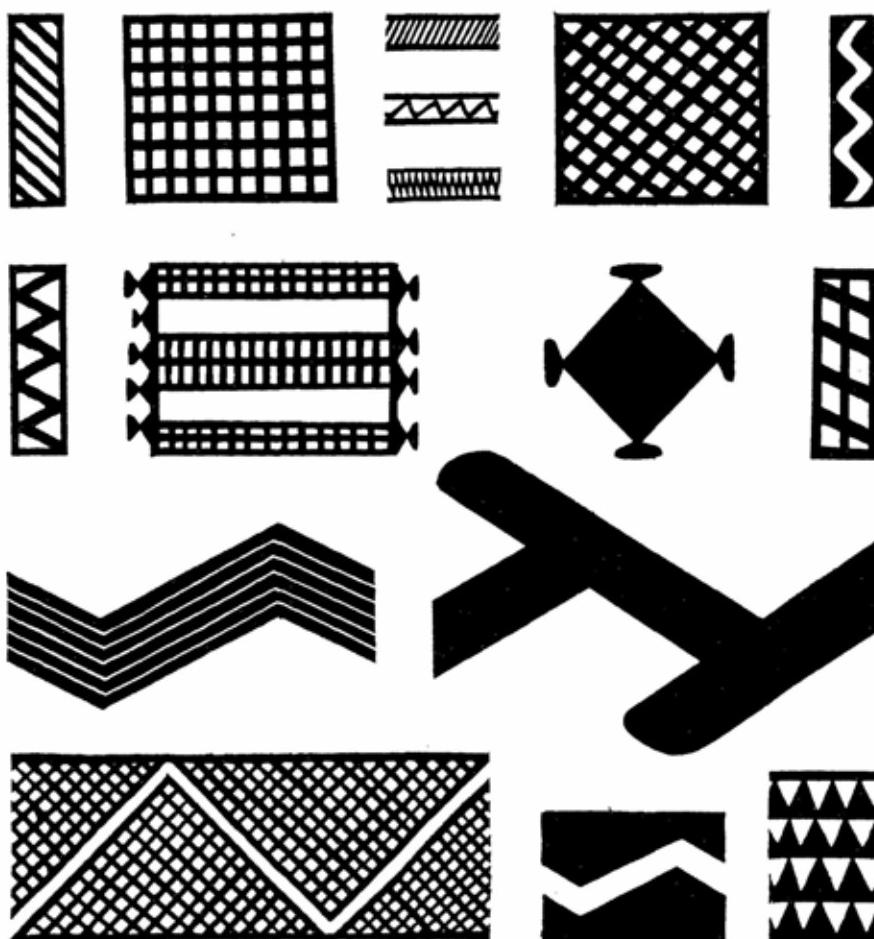


FIG. 17.—MOTIVES ON HAND-MADE VASES, CLASSES 2, 6.

elements which give the Thessalian Protogeometric style its distinctive character are, in fact, due to borrowings from the local pot-fabrics; and by 'local' must be understood not only North Thessaly but Macedonia as well, since, apart from their common ancestry, pure Macedonian types occur at Marmáriane, and, inversely, Marmáriane pottery occurs

in the Haliákmou valley.<sup>1</sup> Moreover, though not a great deal of the Thessalian painted ware is known to us, what we have is sufficiently closely related to the West Macedonian painted group to justify us in assuming for the Thessalian local style a larger repertory than has actually so far been recovered,<sup>2</sup> and in regarding West Macedonia as an available source of borrowing for the Protogeometric potters of Thessaly.

Before proceeding, therefore, to analyse the Protogeometric group, it will be necessary to say a word about the hand-made vases (Classes 1-6).

The jugs with cut-away necks (Class 1) belong to a very ancient tradition, going back all over the Aegean to the Early Bronze Age.<sup>3</sup> In Macedonian settlements<sup>4</sup> and in Thessalian tombs<sup>5</sup> they are common in the Late Bronze Age, but they have their greatest vogue (often with incised decoration) in all parts of Macedonia throughout the Iron Age. They are thus in both areas continuous with local Bronze Age prototypes, but those at Marmáriane seem to be directly derived from the Macedonian, being identical with them in form (even to the twisted handle), in fabric and, in the case of No. 6, in incised decoration as well, and must be regarded as evidence of renewed intercourse with Macedonia and probably, as will be seen later, of a fresh incursion of Macedonians into Thessaly.

The jugs with sloping necks (Class 2)<sup>6</sup> have a similar ancestry and in the Late Bronze Age are found in Central Macedonia (plain and painted)<sup>7</sup> and in Thessaly,<sup>8</sup> but are more specially characteristic of Bouboústi and Pátele.<sup>9</sup> The black-on-red technique is identical with that of Bouboústi, and the ornaments have much in common,<sup>10</sup> while the jug from Volo<sup>11</sup> and the small matt-painted jar from the Late Helladic

<sup>1</sup> Sherds collected at Palaiográtiano, 1930.

<sup>2</sup> In his recent excavations in Thessaly M. Béquignon has found some remarkable examples e.g. *B.C.H.* 1932, p. 108, Fig. 16.

<sup>3</sup> See Dunăreanu-Vulpe, *Considérations sur certaines formes caractérisant l'âge du bronze de l'Europe sud-orientale*, pp. 29-39.

<sup>4</sup> *Vardaróftsa*, Pl. xi (a) : *Antiquaries' Journal*, vi. Pl. xv, 2.

<sup>5</sup> Δ-Σ, Figs. 57, 59 (Dimini); Fig. 51 (Sesklo).

<sup>6</sup> See Dunăreanu-Vulpe, *loc. cit.*

<sup>7</sup> *Vardaróftsa*, Pl. xi (a), 1, 8, 11 (plain) : an example from Lembet (painted) is in the collection of the British School at Athens.

<sup>8</sup> Δ-Σ, Fig. 37 (Sesklo); *P.T.* p. 215 (Domokós).

<sup>9</sup> Bouboústi, Fig. 19, Fig. 30, 6, 8, 11.

<sup>10</sup> Cf. especially the neck pattern on Nos. 10 and 11 with Bouboústi, Fig. 25, 2.

<sup>11</sup> *Ath. Mitt.* 1889, p. 266 and Pl. xi. 8. A photograph of this vase will be found in P. Apostolidis, *Al Payacal*.

III cist-grave at Dimini<sup>1</sup> are significant of the close relationship between the Thessalian and Macedonian styles, and of both to the *Διγύ* wares further south.

Thessalian analogies to the form of the bowl (Class 3) are bowls with wish-bone handles,<sup>2</sup> similarly set upright on the shoulder. The prototypes of the triangular handle are to be sought in the Early Bronze Age in Macedonia, after which they recur fairly frequently until the Late Bronze Age.<sup>3</sup>

Classes 4, 5 and 6 may be considered together, since the cup (Class 4)<sup>4</sup> is really the bowl (Class 5) without the high-swung handles. The latter form appears in the Early Bronze Age in Macedonia,<sup>5</sup> but it attains its greatest popularity in the Late Bronze Age in Thessaly under Minyan influence.<sup>6</sup> Fragments of identical bowls have recently been found in the Haliakmon valley<sup>7</sup> associated with jugs with twisted handles, and thus illustrate reciprocal borrowings on both sides of Olympus at the beginning of the Iron Age. The technique of the painted bowls (Class 6) is precisely that of the Bouboústi black-on-red ware.<sup>8</sup>

Thus the hand-made vases, plain, painted and incised, form a coherent group (contemporary with the wheel-made wares) in which three elements are to be distinguished :

1. A continuous tradition going back to the Early Thessalo-Macedonian Bronze Age;

2. A rather loosely defined relationship with the Late Bronze Age matt-painted fabrics of Central Macedonia and Chalcidice,<sup>9</sup> and a close connection with similar styles in Western Macedonia, where they continued into the Early Iron Age; and

3. Newly-arrived Central Macedonian Iron Age types.

Like the Protogeometric vases from Knossos, recently published by Payne, those from Marmáriane form a homogeneous series;<sup>10</sup> that is to say, with the exception of No. 30, there is not one that could be classed either as Late Helladic III on the one hand, or Geometric on the other.

<sup>1</sup> *Δ-Σ*, Fig. 66.

<sup>2</sup> *Ibid.* Fig. 193.

<sup>3</sup> *Vardarófisa*, Pl. iii (b), 1-4, 7; *Δ-Σ*, Fig. 188.

<sup>4</sup> For a similar cup cp. *Δ-Σ*, Fig. 49 (from Tomb 43 at Sesklo).

<sup>5</sup> *Vardarófisa*, Pl. iv, 12: *B.S.A.* xxx, p. 125, Fig. 10, 1 (from Saratsé).

<sup>6</sup> *Δ-Σ*, Figs. 162, 163 and 209 (one-handled).

<sup>7</sup> *Palaiográtisiano*, 1930.

<sup>8</sup> *Bouboústi*, p. 181, Fig. 28.

<sup>9</sup> *Chalcidice*, p. 143, Figs. 22, 23.

<sup>10</sup> Payne, *B.S.A.* xxix, p. 269.

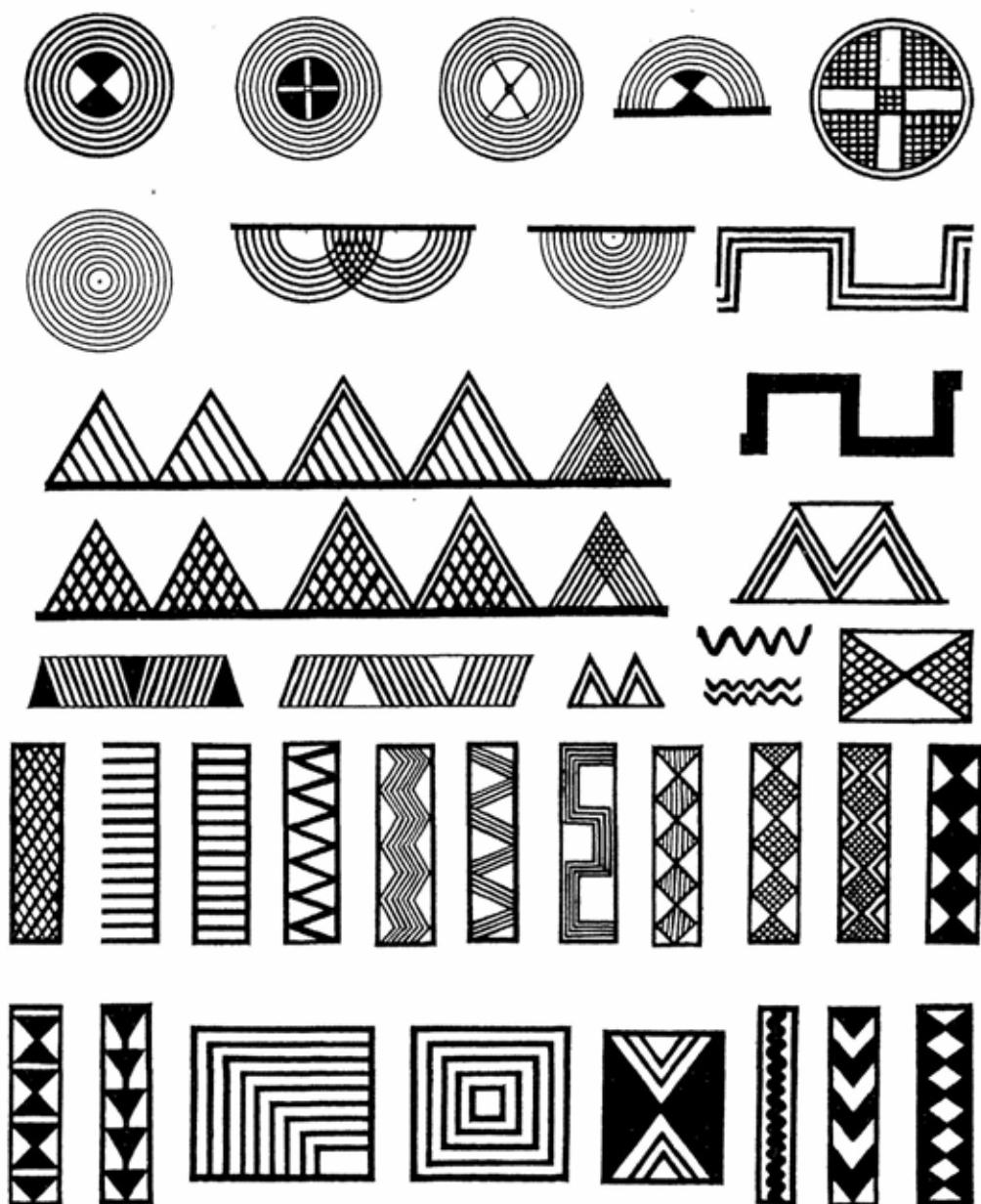


FIG. 18.—PRINCIPAL MOTIVES ON WHEEL-MADE VASES, CLASSES 8-14, 15, 18-20.

(In the last panel in the bottom row a central rib has been omitted.)

Since the characteristics of the Protogeometric style are now fairly well known, we shall leave them on one side, and merely try to isolate those elements which distinguish the Marmáriane group from others, and which cannot be referred to a Mycenaean origin. For convenience' sake we shall treat the shapes and ornaments separately.

In the case of the shapes, borrowings from the hand-made pottery are clear. The jugs with cut-away necks (Class 8), with or without twisted handles, are unmistakably the counterparts of Class 1; the high-handled bowls (Class 13) the counterparts of Classes 5 and 6. The dishes Nos. 127–129 (Class 18) are derived from a Macedonian type, current in a dark hand-made fabric from the beginning of the Iron Age, and themselves descended from the bowl with wish-bone handles.<sup>1</sup> 'Trigger' handles like those of Nos. 91, 92 (Class 12), set, however, more often obliquely, are characteristic of Iron Age settlements and tombs in Macedonia, being variants of a type widely diffused there during the Late Bronze Age,<sup>2</sup> while the prototypes are to be found in Neolithic strata.<sup>3</sup> The loop-handle of the dish No. 131 (Class 18c), with its protracted and upturned ends, is intelligible when it is realised that it is a survival of a type of handle fairly common in the Early Bronze Age in Western Macedonia,<sup>4</sup> whence, as an intermediate example shews, it passed into Thessaly.<sup>5</sup> It also occurs at Troy.<sup>6</sup>

The askos (No. 132) seems, to judge from the shape of the cut-away neck, to belong to the North rather than to the South Greek tradition.<sup>7</sup>

The evolution of the twisted out of a fluted handle can be followed in the burnt layer at Vardaróftsa, where it is clearly due to the influence of the Lausitz invaders;<sup>8</sup> on the other hand, rope-handles occur in Late

<sup>1</sup> *Vardaróftsa*, Pl. xviii (b). *B.S.A.* xxvi, p. 15, Fig. 6, b, c (Chauchitza); xviii, p. 11 (Hálos, pyre II).

<sup>2</sup> *B.S.A.* xxvi, p. 10, Fig. 3, g, i, j (Chauchitza): a vase of identical form with ours (but incised) from Pátele (Constantinople Museum). Similar examples in the Museums of Volo (from the Kapaklı tomb), Chaeronea (from Orchomenos), and Athens, (p. 51, note 6). *Liverpool Annals*, xii, Pl. xiii, 28 (Várdino); *Vardaróftsa*, Pl. x (b), 9–14, and earlier forms, 5, 6; for Thessalian examples see Δ-Σ, Figs. 215–217.

<sup>3</sup> Mylonas, *Excavations at Olynthus*. I, *The Neolithic Settlement*, Fig. 56, c, d, e.

<sup>4</sup> Sérvia (excavated 1930) and Armenochóri (excavated 1931).

<sup>5</sup> Δ-Σ, Figs. 44, 47; and for the Iron Age, *B.S.A.* xviii, p. 13, Fig. 8 (Hálos).

<sup>6</sup> Schmidt, *Schliemann's Sammlung*, No. 1908 (pre-mycenaean).

<sup>7</sup> Contrast *Ath. Mitt.* 1889, Pl. xi, 1.

<sup>8</sup> *Vardaróftsa*, Fig. 12, a–d, f.

Helladic III pottery.<sup>1</sup> The fact, however, that our rope-handles are exclusively associated with jugs with cut-away necks, and that the jugs of this type which have not rope-handles have the characteristic Macedonian twist, is very significant. The origin of the spur-handle at Marmáriane is more doubtful, since, although it occurs in South Greece, especially Rhodes,<sup>2</sup> in L.H. III pottery, it has a long ancestry in the North, going back to the Early Bronze Age in Central Macedonia<sup>3</sup> and to the Middle Bronze Age in Chalcidice<sup>4</sup> (in Minyan ware); there is also an analogous example from Troy II-V.<sup>5</sup>

As regards the decoration, it must be admitted that it is not always easy to decide what is of local and what is of Mycenaean origin, seeing that the same motives occur in the local hand-made wares and in Late Mycenaean—but, apparently, quite independently of each other. Most of the ornaments which appear in other Protogeometric styles can be derived from Mycenaean prototypes, even though the transitional stages may be missing, and where such motives are found at Marmáriane they may likewise be assumed to have a Mycenaean ancestry. This disposes of a large number, such as concentric circles and half-circles, the hour-glass filling, latticed triangles (outlined as well as plain), chains of latticed or solid lozenges, etc., though some of them, especially the triangles and lozenges, are very common in the local matt-painted pottery. Other motives which are either unknown or extremely rare in other Protogeometric styles are the stepped band (compound or solid),<sup>6</sup> hatched triangles in horizontal rows,<sup>7</sup> compound zigzags (vertical or horizontal),<sup>8</sup> and compound squares or right angles.<sup>9</sup> Since most of these are fairly

<sup>1</sup> *Mon. Ant.* xiv, p. 613, Fig. 110 (Phaistos); *PP.* 1928, p. 113, Fig. 2 (Chalandritsa) and p. 117, Fig. 8 (Prostovitsa); *Annuario*, 1923-4, p. 177 (Rhodes). A form of rope-handle had, of course, a long ancestry in the Aegean; e.g. *B.M. Vases*, i, Fig. 10 (from Yortan); *B.S.A.* xxv, Pl. xii, j (Mycenae); one each from the Early Bronze Age strata at Sérvia (W. Macedonia) and Kritsaná (Chalcidice) and several from the Early Helladic site at Pelikáta in North Ithaca (excavated 1930).

<sup>2</sup> See p. 31 note 2.

<sup>3</sup> *Vardarótsa*, Pl. iii (b), 2.

<sup>4</sup> *Chalcidice*, Fig. 40, 8.

<sup>5</sup> Schmidt, *Schliemann's Sammlung*, No. 1908.

<sup>6</sup> *Boubouústi*, Fig. 27, 9 (latticed); Fig. 28, 5 (latticed), 6.

<sup>7</sup> The characteristic ornament of Late Bronze Age painted pottery (C 2) in Central Macedonia, e.g. *Vardarótsa*, Pl. xiv (a), 9; and very common at Boubouústi (*Boubouústi*, Fig. 19).

<sup>8</sup> Nos. 10 and 28 here; *Antiquaries' Journal*, vi, Pl. xv, Fig. 2 (Kilindir).

<sup>9</sup> Cf. *Ath. Mitt.* 1889, Pl. xi, 8. For Mycenaean examples cf. *B.M. Vases*, i, A 708, 722, 727, 957. Cf. also *Boubouústi*, Fig. 26, 9.

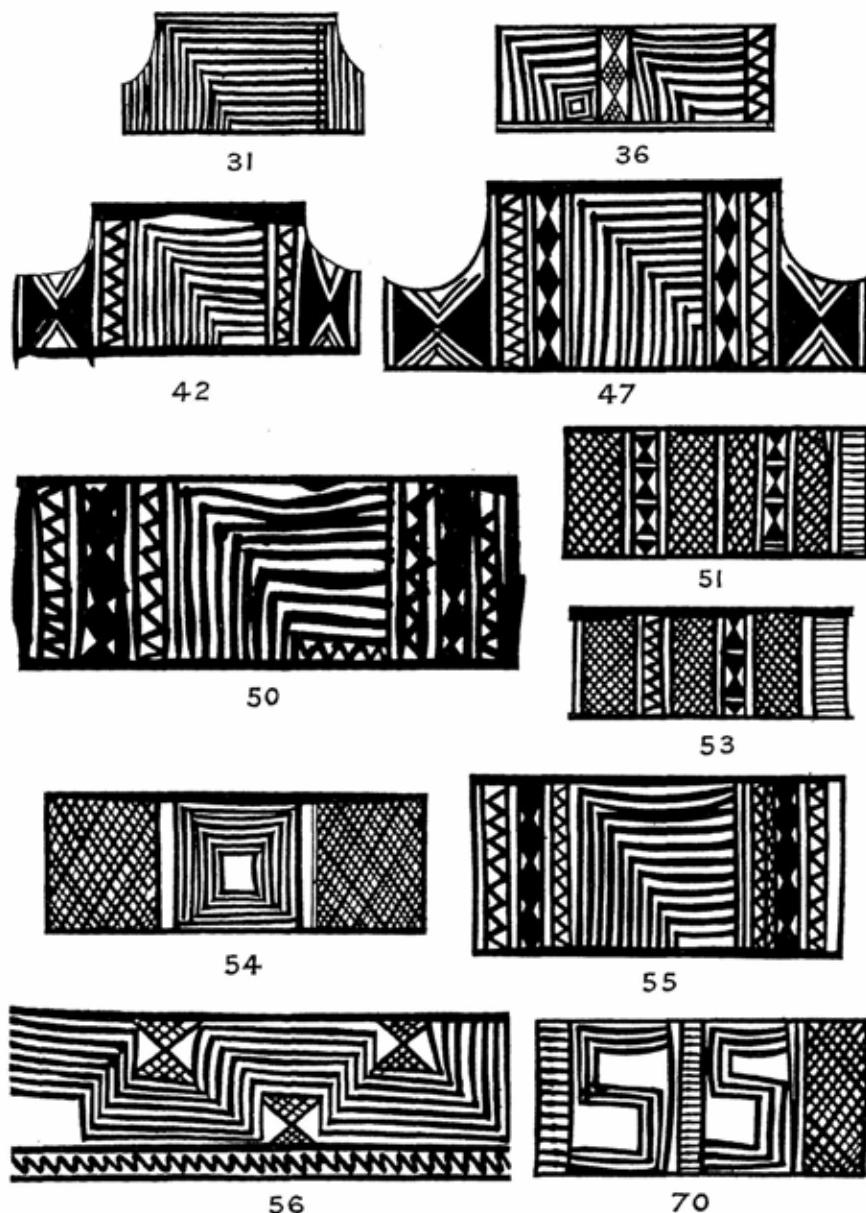


FIG. 19.—NECK ORNAMENTS, CLASSES 8, 9, 10.

common in the local matt-painted pottery, it may be inferred that they were taken over from it. Similarly, while latticed panels do occur in other Protogeometric styles, the Marmáriane potters have a special affection for them and indeed for latticing in general, and this is a marked feature of the hand-made pots all over the Northern painted area. In one case, at any rate, it is quite clear that the motive has been borrowed

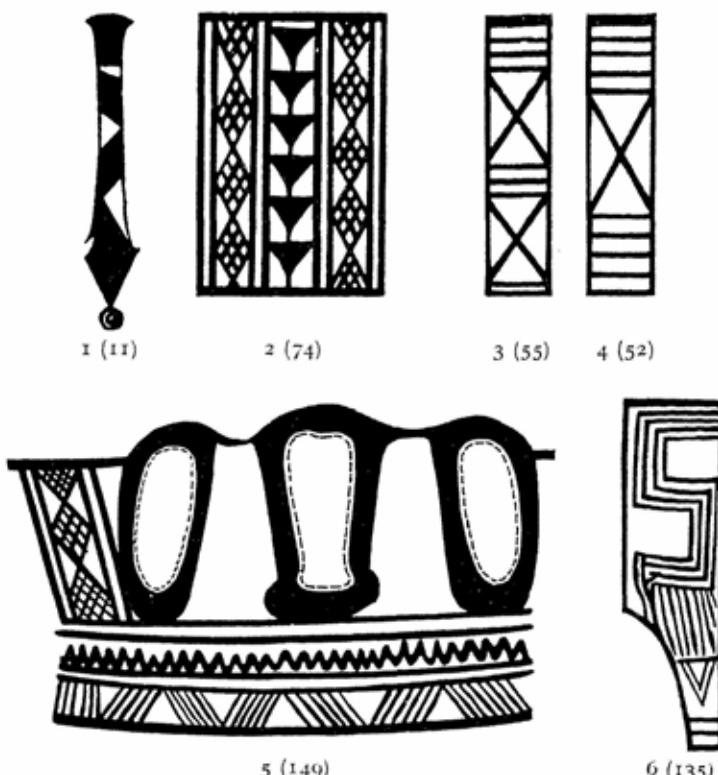


FIG. 20.—NECK AND HANDLE ORNAMENTS, CLASSES 2, 9, II AND 20.

direct from that source, viz. No. 109, which is the wheel-made counterpart of vases like Nos. 17–24. Finally, the spirit of the local style is reflected unmistakably in the concentration of ornaments on the necks of jugs and their arrangement there in vertical panels, features which, as far as we know, have no parallels elsewhere before the Geometric period.

Thus the Protogeometric style of Marmáriane proves to be Mycenaean

in essentials, like Protogeometric styles elsewhere, but distinguished from them by borrowings from old-established local fabrics which were still in being.

### § 5. RELATIVE CHRONOLOGY.

That the earliest Protogeometric style arose in the South can hardly be doubted, where the transition from Late Mycenaean can to some extent be followed through sub-Mycenaean. But in the North the course of things seems to have been somewhat different. If by sub-Mycenaean we mean the gradual disintegration of standard Mycenaean forms, etc., under local influences (illustrated by Late Cypriot III),<sup>1</sup> then, strictly speaking, there is no sub-Mycenaean in Macedonia, where true Mycenaean continued to exist side by side with the local pottery, until both were supplanted, almost at a given moment, by Macedonian Protogeometric.<sup>2</sup> The inference is that the Lausitz invasion interrupted contact with the South, and when, after the invasion had spent itself, contact was renewed, ceramic fashions in the South had advanced and Protogeometric styles were already coming into being. The result of the renewed contact was the Macedonian Protogeometric style, which proves, on analysis, to be a product of the fusion of the new Southern fashions (especially the concentric circles) with the now belated Mycenaean, the pottery of the Lausitz invaders, and the native fabrics.

Our analysis of the Marmáriane Protogeometric has revealed an analogous fusion of somewhat similar elements. Here, too, to judge by such Mycenaean pottery as has been found in Thessaly and by the presence of a Mycenaean tomb in the same mound as the Protogeometric, it looks as if the two styles overlapped, but that there was no true transition from the one to the other.

The Marmáriane group can therefore scarcely fall at the beginning of the Protogeometric series, regarded as a whole, since a certain time must be allowed for the concentric circle fashion to have reached Thessaly and for its subsequent fusion with the styles already existing there. On the other hand, there is no reason for bringing our vases down much beyond the time when Protogeometric was superseded by Geometric in the South. It is true that in Macedonia Protogeometric lasted long after it had died

<sup>1</sup> Cf. Gjerstad, *Studies on Prehistoric Cyprus*, pp. 220 ff.

<sup>2</sup> Cf. *Vardarófisa*, p. 61.

out in the rest of Greece.<sup>1</sup> In Thessaly too it overlaps considerably with Geometric, as is shewn by the Geometric vases in the Volo tomb,<sup>2</sup> and in the Hállos pyres.<sup>3</sup> But the complete absence of such vases from the Marmáriane tombs is evidence enough that this later phase of Thessalian Protogeometric had not been reached.

It might be argued that, since forms analogous to the bowl (Class 3),<sup>4</sup> the high-handled bowl (Class 13),<sup>5</sup> the cups with 'trigger' handles (Class 12),<sup>6</sup> and the handle with upturned ends (Class 18c)<sup>7</sup> appear in the South only in a full Geometric context, the Marmáriane group should be dated by them and consequently placed in the Geometric period. But, other considerations apart, it has been shewn that these forms were in Thessaly either direct imitations of contemporary hand-made forms, or survivals of traditional ones, in either case not discontinuous with the past, and, as such, more likely to be the prototypes of, than derived from similar forms in the South, where no such continuity exists.

The same with the decoration. The only possible ornament that might be claimed as exclusively Geometric is the diagonal between bars on the handles. In view of the handle decoration of the bowls (Class 6), however, a local origin seems more likely, and if transmission there was, it was from Thessaly to the South, not *vice versa*.

The relative chronology of the Marmáriane vases is clear. They must belong to the latter part of the Protogeometric period in the Aegean, and are thus contemporary with the Protogeometric vases from Knossos. Like them they anticipate Geometric, but unlike them, they have no true Geometric successors.

The other objects from the tombs do not conflict with the relative chronology that has been inferred from the pottery. The arched fibula (No. 11) belongs to Blinkenberg's Group II, of which the earliest examples go back to a sub-Mycenaean date.<sup>8</sup> The fact that ours has been mended

<sup>1</sup> Cf. *Vardaróftsa*, p. 31, in diagram, D 4 and D 5.

<sup>2</sup> In the Volo museum: not yet published.

<sup>3</sup> Cf. *B.S.A.* xviii, p. 15, Fig. 9, 1; p. 17, Fig. 11.

<sup>4</sup> E.g. *B.S.A.* xii, p. 85, Fig. 6 (Kynosarges). For the 'spur' cf. p. 47, notes 2-5.

<sup>5</sup> E.g. *ibid.* p. 84, Fig. 5; the progressive development from our shape is well illustrated at Theotókou, Tomb A, where both types occur together, *P.T.* Fig. 145, e.g. There are numerous Geometric examples. Cf. also *B.S.A.* xxiv, p. 22, Fig. 16 (from Chauchitza).

<sup>6</sup> Cf. Athens, National Museum, No. 12574: also *Ath. Mitt.* xliii, Pl. 1, 2.

<sup>7</sup> Numerous Geometric examples, e.g. *B.S.A.* xii, p. 88, Fig. 9 (Kynosarges).

<sup>8</sup> Cf. Blinkenberg, *Fibules grecques et orientales*, p. 58 ff. Cf., however, Persson, *Royal Tombs of Dendra*, p. 102.

with iron signifies perhaps that it had been in use some time. The earliest spectacle fibulae in the South are those from Sparta, where they are associated with Geometric pottery.<sup>1</sup> Reasons for thinking that our spectacle-fibulae entered Thessaly from the North will be given later, and if this is so, it is natural they should occur at Marmáriane in an earlier context. The *tremolierstich* ornament on the armlets is found on bronze diadems, etc. in the earliest deposits at Olympia,<sup>2</sup> and, as we have seen, a similar form of decoration (in paint) is common on the Late Bronze Age pottery of Macedonia.<sup>3</sup>

In Thessaly, therefore, its intermediate position in time and place is natural.

The remaining objects do not permit of very precise dating, but they are not inconsistent with a Protogeometric context.

#### § 6. ABSOLUTE CHRONOLOGY.

We regard the sub-Mycenaean as normally (though not everywhere)<sup>4</sup> interposed between the latest Mycenaean (*i.e.* the 'granary' and the 'close' style) and Protogeometric, and as effecting the transition between them. The terms 'sub-Mycenaean' and 'Protogeometric' are thus not interchangeable, though the distinction has not always been recognised. The recent excavations in Ithaka (though incomplete) enable us to define that distinction more closely. If we take the Salamis group as the standard of sub-Mycenaean, the vases discovered in 1931 in the cave at Polis belong to that class. These vases (about 35 in all) were found together and seem to belong to the upper layer of a deposit (perhaps tomb-furniture) of which the lower part still remains unexplored. They form a homogeneous group, having contacts on the one hand with the 'granary' class and on the other with the Aetós (South Ithaka) deposit, which, as will be seen, is early Protogeometric. The Polis group includes one kylix<sup>5</sup> with plain stem, one with swollen stem, several with grooved stems, several cups with two horizontal loop-handles and slightly everted rims, and one-handled cups with narrow vertical band-handles starting from the rim. Both kinds of cups have low conical feet. There is one stirrup-vase. The ornaments include one carelessly-drawn running

<sup>1</sup> Cf. Blinkenberg, *Fibules grecques et orientales*, p. 254.

<sup>2</sup> Cf. *Olympia*, iv, Pl. xviii, 297–301.

<sup>3</sup> Cf. p. 35, note 3.

<sup>4</sup> Cf. p. 50.

<sup>5</sup> *Illustrated London News*, Feb. 20, 1932.

spiral, horizontal rows of cross-hatched triangles, horizontal zones and concentric loops; many vases are entirely coated with a reddish varnish. At Aetós, in the remains of a burnt house (at present only partly excavated), there are the same cups, a fragment of a trefoil lip, but no kylixes and no stirrup-vases. There are several examples of concentric loops as well as compass-drawn concentric circles and semicircles. Otherwise the ornaments are rectilinear but more elaborate than those at Polis. This deposit seems to illustrate the moment of transition to the Protogeometric style of which we regard the positive diacritics as being compass-drawn concentric circles or semicircles and more advanced rectilinear ornaments,<sup>1</sup> the negative, the absence of kylix, stirrup-vase and spiral.

If the stratum in which the small group of vases at Polis were found is, as it seems to be, undisturbed, then the vases must be all contemporary. But, as has been seen, the group contains elements which attach it to the 'granary' class on the one hand, and to the Protogeometric at Aetós on the other. The inference is that the sub-Mycenaean period was a short one, and, if we accept the traditional date of the fall of Mycenae (about 1100 B.C.) as the end of the 'granary' style, then we shall not be very wide of the mark if we place the beginning of the Protogeometric deposit at Aetós at about 1050 B.C. Allowing some time for the Protogeometric style to reach maturity and for the absorption of local elements in Thessaly, we think that a date round about 1000 B.C. may be tentatively assigned to the earliest Protogeometric vases at Marmáriane. For the lower date we have the absence of Geometric vases. Since the earliest Geometric vases in Thessaly (Hálos and Volo) can hardly be earlier than the eighth century B.C.,<sup>2</sup> we think that it was during the last half of the ninth century that the Marmáriane tombs ceased to be used. The whole period covered by the burials would then be from 150 to 200 years.

#### § 7. CONCLUSIONS.

It would be tempting to regard the Marmáriane finds as evidence of the passage of Dorians on their way south. Unfortunately the available evidence can hardly be reconciled with such a view. If the evidence of folk-memory is reliable, the Dorians had already concentrated in Doris

<sup>1</sup> There are, of course, others.

<sup>2</sup> Pfuhl, *Malerei u. Zeichnung der Griechen*, Band I, p. 59.

prior to the Peloponnesian adventure, by 1200 B.C.,<sup>1</sup> and the adventure itself was launched about 1130 B.C. The Marmáriane tombs, which on purely archaeological grounds we have dated between 1000 and 800 B.C., can therefore have no relation with the Dorians who invaded the Peloponnesus. The Dorian invasion must rather be reflected archaeologically in the change from Late Mycenaean ('granary class') to sub-Mycenaean, and in the destruction of numerous Late Mycenaean sites. The Lausitz invaders of the Vardár valley, then, were not Dorians, though the destruction of the Mycenaean settlements in Macedonia coincides with their arrival, but they may have been indirectly the cause that shifted the Dorians from Doris.<sup>2</sup> They were certainly the cause of a shift of Macedonians into North Thessaly later, as is shewn by the Macedonian jugs, which are identical with those which appear in Macedonia under Lausitz influence,<sup>3</sup> by stray Lausitz sherds, and by the spectacle-fibulae.<sup>4</sup> Prof. Childe has given reasons for thinking that the spectacle-fibula evolved in regions contiguous to the Lausitz culture, as a result of adopting the older fibula-pin to a certain type of twisted-wire ornament peculiar to Lausitz.<sup>5</sup> This is precisely what one would expect to happen in Macedonia, where the Lausitz immigrants (in their search for minerals) came into contact with a culture to which the fibula was already known,<sup>6</sup> and this probability is greatly increased by the discovery in the Pátele graves of an example of this very ornament.<sup>7</sup> Macedonia may thus be one of the regions in which the spectacle-fibula evolved, and from there passed into Thessaly. Seeing that iron had been worked in the Vardár valley during Late Mycenaean times,<sup>8</sup> it is not remarkable they should be made of iron, and thus we have a clue to what brought the Lausitz people south. With regard to the other metals, gold and bronze had been worked in Macedonia from the Early Bronze Age,<sup>9</sup> and the latter in Thessaly at a somewhat later date.<sup>10</sup>

Renewed intercourse with the South is, as we have seen, indicated by the formation of a local variety of the Protogeometric style. The

<sup>1</sup> Cf. Myres, *Who were the Greeks?* p. 458.

<sup>2</sup> Cf. *ibid.*, loc. cit. and p. 536.

<sup>3</sup> Cf. *Antiq. Journal*, vii, p. 52.

<sup>4</sup> Cf. *Man*, 1928, pp. 191–193.

<sup>5</sup> Cf. *ibid.* Fig. 2.

<sup>6</sup> Cf. *Liv. Ann. XII. Pl. 19, 12.*

<sup>7</sup> Constantinople Museum, not published. It may be as late as the 8th century.

<sup>8</sup> Cf. *B.S.A.* xxviii, p. 197.

<sup>9</sup> Cf. *Vardaróftsa*, p. 39; *B.S.A.* xxviii, pp. 197 ff : xxix, p. 181, note 2. Gold objects

have been found in an Early Bronze Age stratum at Sarátse (*ibid.* xxx, p. 143, Fig. 31), and in a Middle Bronze Age stratum at Kilindir (*Ant. Journal*, vi, p. 64).

<sup>10</sup> Cf. *A–Σ*, p. 354.

ubiquity and, in spite of regional differences (the origin of which, at Marmáriane at least, we know to be due to the influence of indigenous fabrics), uniformity of this style point, if not to a single centre of diffusion, at any rate to the simultaneous spread of ceramic fashion, which in itself implies some kind of communications, exchange of ideas and products, and increasingly settled conditions.

The hope, then, that the Marmáriane tombs might be found to cover the bones of transmigrant Dorians must, however reluctantly, be abandoned.<sup>1</sup> We must rather see in them the graves of local Thessalian or Thessalo-Macedonian chieftains, in whose time a measure of stability was slowly being restored.

W. A. HEURTLEY.  
T. C. SKEAT.

<sup>1</sup> If, however, Greek folk-memory is really 'less trustworthy here,' and if the Dorian invasion of the Peloponnese is really archaeologically reflected, as many hold, in the change from Protogeometric to Geometric, then it would be legitimate to regard the Marmáriane tombs as those of Dorians when they sojourned in North Thessaly. The transmission of certain forms from Thessalian Protogeometric into Southern Geometric, which we have noted, would thus fall into place, and the view, still tenaciously held, that the spectacle-fibulae are in some way connected with the coming of the Dorians would receive confirmation.

In any case, the rather puzzling resemblances between the designs on vases from Vrókastro chamber-tombs and town, and the Thessalo-Macedonian local painted ware (cf. *Boubousti*, p. 193), must, if any connection really exists, be due to a much earlier infiltration, i.e. before the rise of the Thessalian Protogeometric style.

## EARLY GREEK VASES FROM CRETE.

(PLATES XII-XXI.)

Most of the vases and fragments here published are from North Central Crete—Episkopi and Arkhanes in the province of Pedhiadha, Fortezza and Kephala near Knossos, various parts of the Palace and Little Palace at Knossos; a few pieces are added from Eleutherna, further west.<sup>1</sup>

### FORTEZZA.

The Fortezza vases were found by Mr. Payne in 1927 in an almost completely destroyed chamber tomb of the type described in *B.S.A.* xxix. p. 226, Fig. 2, in the side of the hill about a mile from Knossos.<sup>2</sup> They are of the protogeometric, geometric, and orientalising periods.

#### *Pithoi with four handles; no neck.*

The type is found in some numbers at Knossos, Fortezza, Anopolis and Episkopi<sup>3</sup>; there is an example in Candia Museum from Kavousi, the only specimen from Eastern Crete; the shape does not occur anywhere in the protogeometric period. In these pithoi from Fortezza, the clay varies from light yellow to buff and brown, the varnish is black, the decoration is arranged in panels; the lower part of the body is decorated with broad and narrow bands; there is a small ring foot.

1. Fig. 1. Ht. 44 cm. Ornament of zigzags, meanders, lozenges: the horizontal handles black, vertical handles striped.

2. Fig. 2 (shape). Ht. 46 cm. The lozenges, meanders and zigzags are variously combined; in one panel two geometric birds face one

<sup>1</sup> I should like here to express my thanks to Sir Arthur Evans, Mr. E. J. Forsdyke and Mr. H. G. G. Payne for permission to publish their finds; and to the Committee of the British School at Athens, the Craven Fund of Cambridge University, and the Council of Girton College, Cambridge, for grants enabling me to undertake the work. I have, too, to thank Sir Arthur Evans for his hospitality during visits to Knossos in 1929 and 1930, and Mr. J. D. S. Pendlebury for kindly taking some photographs for me. The drawings reproduced in Pls. XII, XIII, XX, XXI and Figs. 1-9, 14-16, 21, 29-30 are by Mr. de Jong.

<sup>2</sup> Evans, *P. of M.* ii. p. 547, south-west of 'Old Teké' and 'Geometrical and Proto-corinthian tombs.'

<sup>3</sup> Cf. *B.S.A.* xxix. p. 234.

another; on the handles stripes and, on the vertical handles, St. Andrew's crosses.

3. Ht. 39 cm. In the panels, hatched leaves, cross-hatched diamonds and rows of zigzags; below these a broad black band runs round the vase, upon it groups of concentric circles are painted in white.

This use of white on a black ground, common in Crete in the geometric period,<sup>1</sup> was formerly thought to be a survival of Minoan tradition. But as it does not occur in the protogeometric period at all, the theory of 'survival' is at the least very difficult to maintain.

The latest Minoan vase on which white is laid on a dark ground is the



FIG. 1.—No. 1.



FIG. 2.—No. 2.

goat krater from Mouliana<sup>2</sup>; the earliest geometric piece on which it is found is probably a fragment from the Palace at Knossos, and it is very common in the geometric period in groups of concentric circles round the bodies and lids of pithoi; it is only in the later vases, in the orientalising period, that its use suggests metal models. It seems possible that its early use is a resurrection of Minoan taste, not a survival of Minoan technique or tradition; it might be due to an experimental imitation of some Minoan work<sup>3</sup> which set a fashion; and a later painter, such as the painter of the oinochoe from Knossos,<sup>4</sup> may well have used the fashion to suit his own purpose of imitating metal work on a shape copied from a metal original.

<sup>1</sup> It is of course not particularly an East Cretan ornament, as it appeared to be in 1906: Droop, *B.S.A.* xii. p. 26. <sup>2</sup> *Eph.* 'Αρχ. 1904, Pl. 3.

<sup>3</sup> On the survival of Minoan objects, cf. Beazley, *C.A.H.* iv. p. 582; Evans, *J.H.S.* p. 294. <sup>4</sup> *B.S.A.* xxix. Pl. XI, 7, 8.

4. Ht. 39 cm. This vase is very badly broken. Decoration exactly the same as on the last vase, with the omission of the white semicircles.

*Pithoi with two handles.*

*Protopottery.*

5. Fig. 3. Ht. 42 cm. With low neck and vertical handles, which join the neck.<sup>1</sup> Light greyish buff clay. On either side of the handles, a small round knob of clay projects from the surface, outlined with a black semicircle which depends from the bands below the neck. Similar clay bosses are found on the goat krater from Mouliana, which belongs to the end of the Bronze Age, and on vases from Kavousi,<sup>2</sup> Adhromylois,<sup>3</sup> and a



FIG. 3.—No. 5.

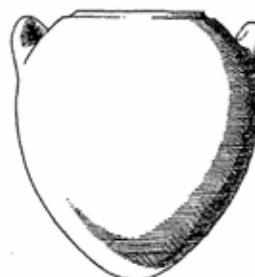


FIG. 4.—No. 6.

protopottery fragment from this tomb. The late Mycenaean and sub-Mycenaean vases in London,<sup>4</sup> A 1049, A 1121, shew the same nipple-like projections, a reversion, as Forsdyke remarks, to a primitive tradition of the pottery of the Eastern Mediterranean. The wide diffusion of the duck-vase<sup>5</sup> in Crete in the protopottery period and the number of owl-vases<sup>6</sup> that have been found shew more fully still the expression of zoomorphic interest, and it is interesting to find the same form elsewhere, for example, in Attica.<sup>7</sup>

<sup>1</sup> Cf. *B.S.A.* xxix. Pl. V. 3, 5, for vertical handles on the shoulder.

<sup>2</sup> Seven examples, unpublished, in Candia Museum.

<sup>3</sup> *B.S.A.* xii. p. 49.

<sup>4</sup> *B.M. Cat.* Vol. I, part I.

<sup>5</sup> Kavousi, unpublished; Kourtes, *A.J.A.* 1901, p. 308; Knossos, *B.S.A.* vii. p. 85, Fig. 26; Afrati, *Liv. Ann.* 1925, Pl. 4; Vrokastro, E. Hall, *Vrokastro*, p. 152.

<sup>6</sup> *Liverpool Annals*, 1925, Pl. IV; *Annuario*, X-XII, Figs. 251, 418, 444, 613; in the Ashmolean, C.V.A. Oxford, II A, Pl. III, 1-4.

<sup>7</sup> Maximova, *Vases Plastiques*, Pl. XI, 43.

The cable-pattern is a Mycenaean inheritance<sup>1</sup>; with the central spaces filled with concentric circles it is painted on the shoulder of a protogeometric oenochoe in Candia.

This vase already shews the tendency to fill in the spaces between the broad bands with narrow lines—a style common in the L.M. III period, which disappeared for a time and was revived in geometric vase painting.

*Geometric.*

6. Fig. 4. Ht. 24 cm. Horizontal handles, no neck or foot. Meander squares and meander bands, St. Andrew's cross, and two does with fawns; animals are very rare in Cretan geometric vase-painting.



FIG. 5.—No. 7.

7. Fig. 5. Ht. 49 cm. Small foot. The system of metopes is here symmetrical, the ornaments are close-packed, the body is entirely covered with broad and narrow bands; the shape is less clumsy and more compact than that of the last; a comparison of this and the last two vases shews how the shape develops—the base grows narrower, the widest part of the vase climbs higher.<sup>2</sup> On the highest black band, and on the black shoulder panels, groups of concentric circles in white.

8, 9. Two pithoi of the same size and shape, apparently, as No. 7, very much broken; on one, zigzags, hatched and treble lozenges in metopes, on the other, continuous decoration of large meanders and zigzags.

<sup>1</sup> Cf. *B.M. Cat.* Vol. I, part I, A. 903, A. 1070.

<sup>2</sup> Cf. *B.S.A.* xxix. Pl. VII. 1, and the really bad shape of Pl. VII. 9.

10. Fig. 6. Ht. 43 cm. High double handles, straight sides; restored without a foot; shoulder and body meet at an angle, not in a curve.

The roughly-painted net pattern which covers the body is an inheritance from the Minoan period; it became fairly common in Mycenaean pottery,<sup>1</sup> and it occurs, but not commonly, on protogeometric vases. Both the division of the shoulder by a broad band and the series of hatched curved bands, though in a different position, are found on a vase of the same shape from Afrati.

The straight-sided pithos is fairly common in Crete, rare elsewhere.



FIG. 6.—No. 10.

Several examples, protogeometric and geometric, some with domed and conical lids, were found at Afrati,<sup>2</sup> one at Gela,<sup>3</sup> and one at Vrokastro.<sup>4</sup> A good specimen of this shape came from a tomb at Adhromyloi,<sup>5</sup> and the best specimen is in the British Museum.<sup>6</sup> The double handles are a usual feature, in all the ornament is arranged in panels, the only two which have ornament under the handles are the Fortezza and B.M. examples; in the former, the net-pattern is unbroken, in the B.M. specimen the spaces inside the handles are treated as separate panels and filled with

<sup>1</sup> E.g. B.M. Cat. A. 664, 1016, 1080.

<sup>2</sup> *Liv. Ann.* 1925, Pl. V. d. *Annuario*, X-XII, Figs. 61, 156, 292, 387.

<sup>3</sup> *Mon. Ant.* xvii. Pl. 5 (certainly an import from Crete), and p. 124, sep. 211, where reference is made to a somewhat similar pithos in Athens. *Jahrbuch*, 1899, p. 81, Collignon-Couve, *Cat.* Pl. XII. 222.

<sup>4</sup> *Vrokastro*, p. 162. Cf. also *B.S.A.* xxix. Pl. VI, 11.

<sup>5</sup> *B.S.A.* xii. p. 52, Fig. 28.

<sup>6</sup> No. A 408.

groups of large chevrons which straggle and sprawl in marked contrast with the packed decoration upon the body. A somewhat similar pithos, though without the sloping shoulders, is the burial vase from Erganos, from the end of the Bronze Age.<sup>1</sup>

The shape<sup>2</sup> is of Minoan origin; it is not descended from the slender, lidless pithos with two handles, such as are shewn in *Mallia, Premier Rapport*, Pl. 30, 2, Pl. 28, 1 and 5, but from the barrel-shaped pithos, with a lid, of the L.M. II and III periods.<sup>3</sup>

The protocorinthian tall pyxis with upstanding handles and domed lid is derived from the tall straight-sided pithos of Crete; it is a rather rare shape, occurring most commonly in the early period of the protocorinthian industry.<sup>4</sup>

A straight-sided pyxis of related shape, but shallow, was found on the Acropolis at Sparta<sup>5</sup>; the vase is 'so far out of the ordinary that, when it came to light, some doubt was felt whether it might not be an importation, though no suggestion was hazarded as to its origin'; it is put into the Laconian I class of pottery, where it 'provides complete proof of the existence side by side of Laconian subgeometric and Laconian I.' It is Cretan<sup>6</sup>; the clay and style of the painting, as well as the shape, make this quite certain; it is rather earlier than the Praesos plate and is to be dated in the first quarter of the seventh century.

#### *Amphora.*

II. Ht. 33 cm. Tall neck, very slender body.

#### *Oinochoai.*

12. Fig. 7. Ht. 24 cm. Short neck, almost globular body. On the handle a white wavy line.

<sup>1</sup> *A.J.A.* 1901, Pl. 6, 4, p. 304.

<sup>2</sup> On the shape, see *B.S.A.* xxix. p. 263, on No. 165 bis.

<sup>3</sup> *B.S.A.* Supplement, Pl. 23, a, b, c.

<sup>4</sup> Examples: *Ath. Mitt.* 1903, Beilage 34, 4 and 5; 36, 1-3; Johansen, *Les Vases Sicyoniens*, Pl. XI. 2-4 (*Arch. Zeit.* 1883, 162); Collignon-Couve, *Cat.* Pl. 17, 404. Fragments of this shape have been found at Perachora (1930). See also Payne, *Necrocorinthia*, p. 7, and *C.V.A.* Oxford II, Pl. I, 7.

<sup>5</sup> *B.S.A.* xxviii. p. 58, and Pl. 6. One detail is not quite clear; the hand of the driver on the largest fragment is incised; for the combination of the different techniques, the Praesos plate is comparable (*B.S.A.* x, Pl. 3).

<sup>6</sup> Cf. Payne, *Necrocorinthia*, pp. 5 (note 1), and 342 (XII). I had come independently to the same conclusion here reached by Payne.

13. Ht. 11 cm. The neck missing. Squat shape, the same as No. 31 from Episkopi (below, p. 71). Painted black all over.

14. Pl. XII. Ht. 29 cm. The quasi-spiral pattern is similar to some of the spiral ornaments of Minoan painting, but it is unlikely that it is in any way to be connected with them; the wonderful Mycenaean spiral ornaments of the mainland could hardly fail to be spread abroad in the period of the widest Mycenaean influence; but neither the Minoan nor the more elaborate Mycenaean pattern is found in Crete in the proto-geometric and geometric periods; it was brought back to Crete with other fashionable devices such as the tongue pattern from the East in the orientalising period.

The raised ring round the long neck of this vase is reminiscent of



FIG. 7.—No. 12.

Cypriot pilgrim flasks, and of the aryballooi that are found in Crete; the close relation between the oinochae and the aryballos in Crete has already been emphasised.<sup>1</sup>

This vase shews in shape and general appearance that similarity to a metal jug which has already been mentioned; of the two white-painted vases from Praesos, the oinochae is undoubtedly by the same painter or from the same workshop as this,<sup>2</sup> while the hydria shews convincingly by its handle and foot that it is inspired by a metal form.

15. Fig. 8. Ht. 22 cm. Globular body, trefoil mouth, and a spout on the front of the body in the form of a bull's head. One side of the vase is altogether missing. Very pale brown clay, brownish red paint.

The strong influence of Cyprus is obvious—in the shape, in the orna-

<sup>1</sup> Payne, *B.S.A.* xxix. p. 254.

<sup>2</sup> Cf. *B.S.A.* xxix. p. 276, where this has been already noticed.

ment of concentric circles arranged on the sides, and in the form of the spout. The globular jug is so common in Cyprus that there is no need to quote parallel examples; it is more useful to compare another oinochoe from Knossos,<sup>1</sup> also of the beginning of the orientalising period, which again shews strong Cypriot influence in both shape and decoration. The

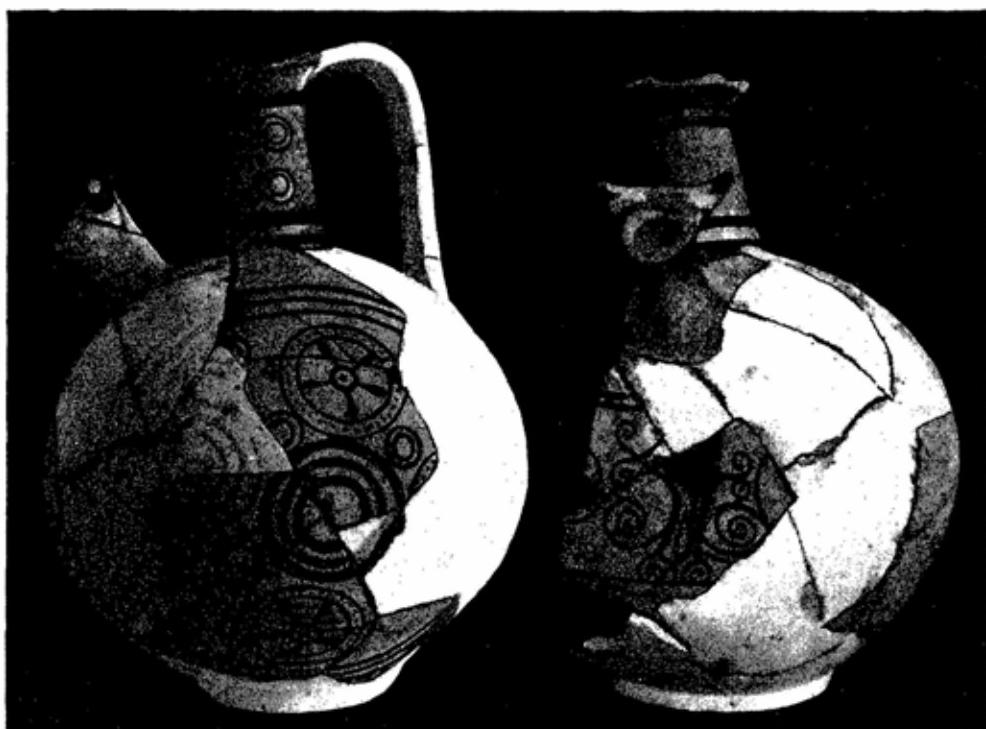


FIG. 8.—No. 15.

perverse Cypriot habit of drawing concentric circles on the sides of vases in such a way as to destroy the shape was fortunately not generally adopted in Crete, though examples do occur (the two aryballooi from Episkopi, below, p. 71, and *B.S.A.* xxix. Pl. IX. 10). The arrangement of small circles inside large rings which almost cover the body of the vase is again a Cypriot feature.<sup>2</sup> Hardly less common in Cyprus is the plastic spout, which persisted in one form or another for several generations.<sup>3</sup>

<sup>1</sup> *B.S.A.* xxix. Pl. X. 5.<sup>2</sup> It is common in Thera also.<sup>3</sup> Myres, *Cesnola Handbook*, Nos. 517, 519. *C.V.A. Denmark*, II. c. Pl. 28, 4.

The wheel-like pattern at the top and bottom of the design upon the side occurs both in Thera and at Afrati; dotted circles are very common in Cretan vase-painting.

The ornament on the front of the vase deserves some little notice; it is obviously derived from a Mycenaean prototype,<sup>1</sup> which spread to the Orient and was widely used in East Greece. Its occurrence here is due to Cypriot influence, which brought the motive back to Crete in the seventh century.

As in other Cretan finds, the geometric and orientalising oinochoai



FIG. 9.—No. 16.

from Fortezza vary widely in shape; the high conical foot, which is a common feature of oinochoai and of other forms in the protogeometric period, both in Crete and elsewhere, and may have been due to the influence of metal shapes, disappears at this time.

#### *Hydria.*

16. Fig. 9. Ht. 22 cm. The vertical handle, joining the neck some distance below the mouth, and the very low side handles are comparable with the character of the hydriae from Episkopi,<sup>2</sup> Kourtes,<sup>3</sup> Vrokastro,<sup>4</sup> and Knossos.<sup>5</sup> Both the elements and arrangement of the ornament

<sup>1</sup> Cf. below, p. 86, and *Ath. Mitt.* 1918 (Schweitzer), p. 42, note 2.

<sup>2</sup> Below, p. 69, Pl. XIII.

<sup>3</sup> *A.J.A.* 1901, Pl. 9, No. 10; Pl. 9, No. 12, with high foot (this latter is protogeometric).

<sup>4</sup> *Vrokastro*, Pl. 27.

<sup>5</sup> *B.S.A.* xxix, Pl. V. 8, p. 248 (protogeometric).

most nearly resemble those of Kourtes. The date is early in the geometric period; the attempt to fill the surface with ornament is clear enough, the choice and grouping of the decorative features are simple to a degree; the idea of decoration is purely linear and the open, straggling effect of proto-geometric painting is still in evidence. The painter of this vase had evidently seen geometric painting, but is not himself at home with the style.

*Cup.*

17. Fig. 10. Ht. 10 cm. One handle: vertical rim. The type is Minoan; the more usual rendering has a slanting rim and sometimes a slight ring foot: in its earliest form it shews the influence of a metal type.<sup>1</sup> It is common at Knossos; this is the only complete example from this tomb, but the fragments of the shape are countless.<sup>2</sup>

*Aryballoï.<sup>3</sup>*

18. Fig. 10. Ht. 9 cm. The neck missing. Good fabric, polished surface. There are fragments only of other aryballoï—two of the long-necked type with a raised ring, two very short-necked with globular body: the decoration consists of concentric circles, bands, chevrons, lozenges and a row of birds. The clay is pure, smoothed, the paint lustrous, the decoration painted with some care. Pl. XIV, 2 and 12.

It is impossible to arrange a chronological series of the types of the aryballos, and the development of the shape is not clear. All these Fortezza specimens, from their quality, seem to belong to the geometric period; the subject of the ornament of the last fragment makes its period quite certain.

*Orientalising.*

There is a tiny fragment of an aryballos of the orientalising period, the lip decorated with tongues. Pl. XIV, 4.

*Skyphos with offset rim.*

19. Fig. 10. Ht. 7 cm. There are many fragments of the same form; the decoration in the panel between the handles is always very simple—zigzags or groups of vertical strokes: sometimes only the rim is

<sup>1</sup> B.M. Cat. Vol. I. part I A. 514, 516, 517, 637, 640.

<sup>2</sup> Cf. B.S.A. xxix. p. 258; and on its occurrence outside Crete, p. 259.

<sup>3</sup> On Cretan aryballoï, see B.S.A. xxix. p. 254.

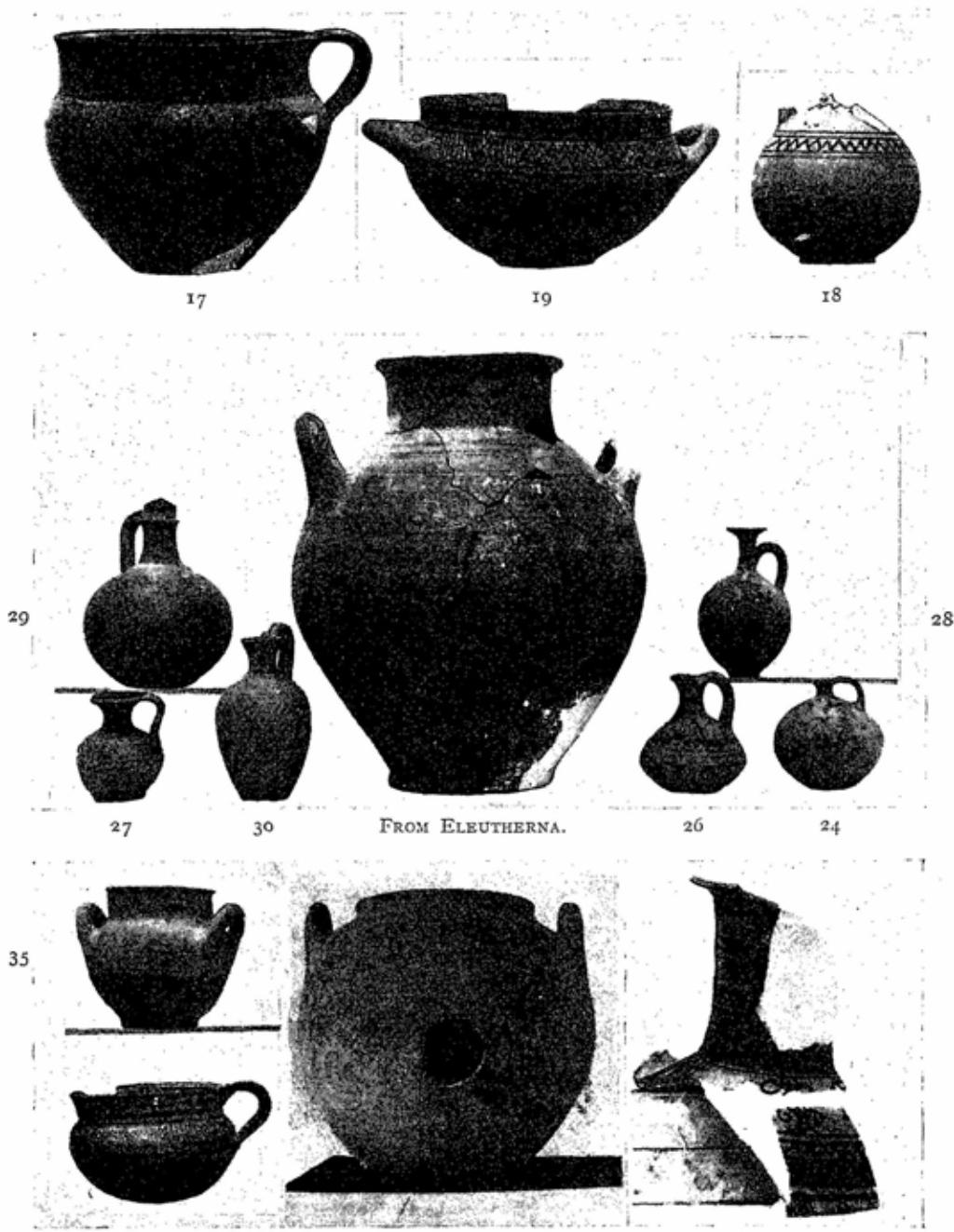


FIG. 10.—Nos. 17-19 from Fortezza, Nos. 23-35 from Episkopi, No. 49 from Knossos (p. 79).

varnished on the inside, sometimes the lower part of the outside is covered with bands : the fabric is nearly always poor.

The shape survived from the protogeometric and geometric periods, and was in high favour with protocorinthian potters, who improved the shape by refining the curves of the body and gave it increased compactness and trimness ; it always retained simple geometric decoration.



FIG. II.—LID FROM FORTEZZA.

Other shapes which occur in considerable quantities, mostly in very fragmentary condition, are bowls, lids, flat plates and small geometric cups.

#### *Bowls.*

No foot or handles ; only a few examples of this shape occur. A commoner form has a small foot, offset rim and two handles on the rim ; the ornament is simple—chevrons, zigzags, hatched leaves, narrow oblongs ; on one, a hatched wavy band fills the widest zone.

#### *Lids.*

The lids are all in fragments ; they include the types already known,<sup>1</sup> and there is one with a broad rim (Fig. II). The clay is an unusually

<sup>1</sup> *B.S.A.* xxix. p. 246.

dark leather-brown colour, and is smoothly polished. The chequer pattern, which ornaments the inner surface of the rim, is found in Late Minoan painting<sup>1</sup> and in Late Mycenaean,<sup>2</sup> and is fairly common in the protogeometric<sup>3</sup> and geometric<sup>4</sup> periods.

*Plates.*

The fragments of plates with deep rims, and handles standing on the rims, are very numerous; the decoration is simple—zigzags, groups of lines, hatched leaves.

*Protopgeometric cups.*

The protogeometric cups of bell-krater shape are very numerous; none is larger than eight centimetres high; they are roughly made, the



FIG. 12.



FIG. 13.

clay is impure and porous; the outside and the rim of the inside are roughly daubed with black paint.

On the pithos fragments which are not numerous—except the large pieces from the lower part of the body, decorated with bands—the ornaments based on diagonally divided squares are most common, with groups of white concentric circles and the geometric patterns which are found on the pithoi Nos. 1-4 and 6-10. To judge from the curve of the fragment, the ornament shewn in Fig. 12 is from the shoulder of an amphora, not from a pithos.

An oinochoe neck, 13 cm. long, is worthy of some notice; a sketch of it is given (Fig. 13); there is an exactly similar neck among the vases

<sup>1</sup> *Eph. Apx.* 1904, p. 39, Fig. 9.

<sup>2</sup> *B.M. Cat.* A. 1075, 1014.

<sup>3</sup> *B.M. Cat.* A. 1123; *B.S.A.* vi. p. 84, Fig. 26, centre.

<sup>4</sup> Fragments of pithos from this tomb. Pithos in *B.M. A.* 408.

from Arkhanes.<sup>1</sup> The ornament below the moulded ring occurs again on vases from the cemetery dug by Dr. Hogarth,<sup>2</sup> from other Knossian tombs,<sup>3</sup> and is used round concentric circles to make a rosette on pithos No. 7. This veined leaf ornament occurs on Minoan pottery—on an imported jug from Phylakopi, at Mochlos,<sup>4</sup> and at Palaikastro<sup>5</sup>; it serves to make wings for an absurd griffon and bird on a larnax from Palaikastro,<sup>6</sup> too. It occurs in exactly the same position on the oinochoe fragments from Fortezza and Arkhanes and on the Minoan oinochoe from Palaikastro.

#### EPISKOPI.

These vases were found by a peasant some years ago; they clearly come from a tomb.

#### *Hydria.*

20. Pl. XIII. Ht. 27 cm. The form is the same as that of the hydria from Fortezza, No. 16 above. For the net pattern on the shoulder compare the Fortezza pithos, No. 10; the plate from Episkopi is covered inside with the same ornament (No. 39).

The windmill pattern is found on other Cretan vases—on a hydria from Kourtes,<sup>7</sup> on a protogeometric and a geometric pithos from Afrati<sup>8</sup>; fragments painted with the same pattern were found at Knossos,<sup>9</sup> and one piece at Prinia.<sup>10</sup> Later it is met with in a more distinguished fabric; for it is one of the numerous Cretan motives borrowed by the protocorinthian artists.<sup>11</sup> It occurs, too, under the handle of a Vourva bowl in Athens.<sup>12</sup>

#### *Four-handled pithos.*

21. Fig. 14. Ht. 38 cm. Buff clay, black paint; the form of the vase is the same as that of Nos. 1-4 from Fortezza, but the loop-handles are replaced by a double handle, roughly in the form of a ram's head and horns, with a vertical handle rising from the forehead.

<sup>1</sup> Below, p. 75.

<sup>2</sup> B.S.A. vi. p. 84, Fig. 26.

<sup>3</sup> B.S.A. xxix. Pl. VIII. 8.

<sup>4</sup> A.J.A. 1909, p. 282, Fig. 5.

<sup>5</sup> B.S.A. Supplement, p. 46, Fig. 35.

<sup>6</sup> B.S.A. xi. p. 280, Fig. 11.

<sup>6</sup> B.S.A. viii. Pls. XVIII. XIX.

<sup>7</sup> Candia Museum, No. 371.

<sup>8</sup> Annuario x-xii, Figs. 387, 460.

<sup>8</sup> Below, pp. 88, 92.

<sup>10</sup> Annuario i, p. 73, Fig. 14.

<sup>11</sup> B.S.A. xxvii. p. 125.

<sup>12</sup> Ath. Mitt. 1890, Pl. X.

*Two-handled pithoi.*

22. Fig. 15. Ht. 54 cm. Very coarse red clay, blackened in places, evidently from being used on a fire—although the shape is not a particularly suitable one for a cooking pot. The decoration on the neck is incised, not stamped with a mould as on the figured pithoi which are specially common in Crete, Rhodes and Boeotia.

23. Fig. 10. Ht. 33 cm. Coarse red clay, undecorated. In the middle of one wall, a hole, certainly made intentionally, about eight



FIG. 14.—No. 21.



FIG. 15.—No. 22.

centimetres in diameter. Vases of a very similar type were found at Vroulia,<sup>1</sup> where they served as burial jars for children; it is suggested that before the vases were needed for this purpose they had been used as a copper or as a cooking pot, for the outer surface was blackened with fire; this pithos from Episkopi, a shape very well fitted for such a purpose, shews no trace of blackening.

At Vroulia, too, jars used for child-burials were often pierced—either a hole was cut with a sharp edge, or a circular series of small holes was drilled and the pieces between them broken away—and the body of the child was put into the jar through the hole; usually the jar was interred with the hole uppermost, and the hole was covered with a disc or flat

<sup>1</sup> Kinch, *Vroulia*, p. 41, Pls. 29, 30, cc.

stone. Infant burials in jars are known in Crete—in the Minoan period<sup>1</sup> and in the geometric period.<sup>2</sup>

*Aryballoï.*

24. Fig. 10. Ht. 6 cm. Pinkish red clay: no painted decoration.

25. Ht. 10 cm. Shape and fabric as No. 24, but with raised rings on the neck.

26. Fig. 10. Ht. 7 cm. The flattened body is not uncommon in small aryballoï.

27. Fig. 10. Ht. 5 cm. Light brown clay.

28. Fig. 10. Ht. 10 cm. On the mouth concentric circles, on the handle dots; a wavy line below the handle, and a row of chevrons down the front of the body.

The raised ring on the neck and the scheme of concentric circles on the sides are signs of Cypriot influence. Dotted circles are a very common Cretan ornament.

29. Fig. 10. Ht. preserved to 13 cm. Dark leather-brown clay, very well smoothed and polished. The same ornament on the front and on both sides; cf. *B.S.A.* xxix. p. 279, Fig. 34, 5<sup>2</sup>.

30. Fig. 10. Ht. 9.5 cm. Fabric as No. 29.

*Oinochœ.*

31. Ht. 6 cm. The neck and handle missing; squat shape, as Fortezza, No. 13. Pink clay, painted black all over; white bands and a white wavy line.

*Jug.*

32. Ht. 13 cm. Coarse unpainted fabric. Exactly like the vase No. 102 in *B.S.A.* xxix. p. 255, Fig. 21, from Knossos.

*Skyphos with offset rim.*

33. Ht. 9 cm. Shape exactly as No. 19 from Fortezza. Pink clay of poor quality; the varnish is dull, very much absorbed by the open, porous clay. The inside varnished all over; on the outside, bands.

<sup>1</sup> Seager, *Cemetery of Pachyammos*, 9: *Explorations in Mochlos*, 14.

<sup>2</sup> *B.S.A.* xxviii. pp. 248, 254, 260; Mavrospelio, Tombs IV, VII, XVII. Many Cretan geometric pithoi were certainly used, not for infant burials, but for the ashes from cremation. *A.J.A.* 1897, p. 257. *B.S.A.* xxix. p. 228.

The vase was deformed before it was fired—the greatest width from one side to the other is 13 cm., the smallest 10 cm.

34. Ht. 9 cm. Fabric as No. 33; the inside, black: on the outside, groups of three concentric circles between the handles, the lower part of the body, black.

*Pyxis.*

35. Figs. 10 and 16. Ht. 9 cm. Light buff clay. The shape is very old in Crete; it is an adaptation of the Late Minoan I squat bowl with three handles<sup>1</sup>; the development is conveniently seen in *B.M. Cat.* Vol. I, part I, A. 651, Pl. VIII. and Figs. 188–190, 192.



FIG. 16.—No. 35.

*Lids.*

36–38. All are rather damaged; they are of the conical type with a large knob: the ornament consists of bands, and of friezes of groups of concentric circles.

*Plate.*

39. Diameter 15 cm. Coarse red clay; of uneven thickness; the deep rim is black, inside and outside; inside, the bottom is covered with net-pattern.

In the four-handled pithos and lid, the hydria, squat oenochoe and skyphos, the plate and plain jug, the pottery of Episkopi is exactly similar to that from Knossos (*B.S.A.* xxix. pp. 224–298) and from Fortezza (above). The close relationship is one of ornament as well as shape; compare, for example, Nos. 20, 10, and 39 for the net pattern, and No. 29 and a pithos from Knossos published in *B.S.A.* xxix. p. 279, Fig. 34, 52.

ARKHANES.

The vases and fragments from Arkhanes are not numerous; all were found by a peasant some years ago.

<sup>1</sup> On the stone origin of the shape, Forsdyke, *B.M. Cat.* pp. 141–142.

*Cups.**Protopgeometric.*

40. Ht. 6 cm. Extremely poor fabric; the upper part is varnished both inside and outside with poor black paint in an irregular wavy daub. The type is found in some numbers at Knossos, Vrokastro, Fortezza, the tombs of Mavrospelio, at Eleutherna and Adhromyloi; on the origin of the type, see above, No. 17. These cups vary considerably in quality and finish, and probably cover both the protogeometric and geometric periods; this partly-painted example is protogeometric—the open, poor clay and dry, dull varnish are characteristic of the period, and the wavy daubs of paint on the upper half are common on the small protogeometric cups of bell-krater shape.

Among the black cups from Adhromyloi, some have a round, thickish handle, which overlaps the rim of the cup on the inside; they are less well-made and less well-painted than the others, which have the flat ribbon-handle that is usual on other sites and is found here too in some numbers; these more clumsy examples are probably all protogeometric.

*Geometric.*

41. Ht. 9·8 cm. Shape as No. 40. Brown clay, varnished black all over.

42. Ht. 7 cm. Same shape as last. Smooth, good fabric; red clay, covered inside and outside with lustrous black paint, in places fired red.

*Bowl.*

43. Diameter 12 cm. Buff clay, black paint. The inside is plain; on the outside a frieze of  and bands are painted, and on the bottom an eight-pointed star; from the lowest band, groups of chevrons hang down between the petals.

*Lid.*

44. Diameter 14 cm. Of the type described in *B.S.A.* xxix. p. 246, No. (4). On the curved surface bands, and in the middle chequers inside a circle.

*Kalathos.**Protogeometric.*

45. Diameter 17 cm. With two handles. The shape is irregular, the thickness and surfaces uneven, the paint dull. The inside is painted with bands; outside only the handles and the rim are painted.

The type, with and without handles, is Mycenaean<sup>1</sup>: the type is common in the protogeometric period, with handles<sup>2</sup>; in the geometric period, the handle-less form is far the more common. Both the solid and open-work<sup>3</sup> varieties (this last was made by the excision of strips of clay before the firing) have a later history in the protocorinthian industry<sup>4</sup>; here the proportion of width to height grows less, the sides take a deeper, more pronounced curve, like the baskets painted on Attic vases. The long history of the shape is not surprising—rather it is surprising that a form so simple to make and so obviously useful has not survived in even greater numbers; its common everyday use, as a cup or a box for beads and brooches, may account for the extreme simplicity of the best and most highly finished specimens; the decoration never becomes more elaborate than a series of plain bands.

The form with narrow strips cut out of the body occurs among Attic vases too—among the vases from the Kerameikos and from the Isis-grave at Eleusis.<sup>5</sup> A single example was found in bronze at the shrine of Artemis at Lusoi.<sup>6</sup> There is an Attic black-figure vase of very similar shape<sup>7</sup>; I do not know of any red-figure example.

*Aryballos.*

46. Fragmentary: ht. 5 cm.—remaining. On the neck bands: on the shoulder double hatched triangles; below this lines, and black as far as the break. Compare No. 26 from Episkopi, and No. 105 *B.S.A.* xxix. p. 254, Fig. 22 from Knossos.

<sup>1</sup> Cf. the Bronze Age terra-cotta figurines of a woman with a kalathos on her head. See Walters, *B.M. Cat.* p. 1, No. A. 1.

<sup>2</sup> Evans, *Palace of Minos*, ii. p. 136, Fig. 69.

<sup>3</sup> *Vrokastro*, Pl. XXXI.

<sup>4</sup> Johansen, *Les Vases Sicyoniens*, p. 66; on the chronology, p. 67.

<sup>5</sup> *C.V.A. Athens*, III. H. d. Pl. VI. 10, 11. Cf. 'Εφ'Αρχ. 1898, 107, Fig. 27.

<sup>6</sup> *Jahresh.* 1901, p. 50, Fig. 69.

<sup>7</sup> Collignon-Couve 637; *C.V.A. Athens*, III. H. g. Pl. V. 7.

*Oinochoe.*

47. Long thin neck and part of shoulder; ht. of fragment 14 cm. An identical fragment came from Fortezza (above p. 68, Fig. 13).

*Amphora.*

48. Ht. 28 cm. The upper part of the neck is broken. Shape as the amphora from Fortezza, No. 11. Red clay, poor black paint. On the neck, bands and groups of short vertical strokes; on the shoulder, between broad bands, is a frieze of vertical lines; the body is covered with broad and narrow bands.

A ribbed stem is a fragment, probably, of a krater<sup>1</sup>; it is of coarse red clay, and unpainted. Nos. 40, 45 and perhaps 43 are protogeometric; No. 40 resembles in fabric and ornament the protogeometric cups of different shape from Fortezza; Nos. 45 and 43 are similar to the kalathoi and bowls of Knossos and Fortezza. The oinochoe neck, No. 47, is identical with that from Fortezza, and there is hardly any difference between Nos. 11 and 48; both belong to the early geometric period—the heavy contours of the protogeometric amphora are displaced, the meagre ornament of the protogeometric period is giving way to something rather more generous, but the fashion is still at its simplest, and the characteristic ornaments of the geometric style do not yet occur.

These few vases and fragments found at Arkhanes shew no differences in forms or painted ornaments from the finds of Fortezza and Episkopi; it is clear that in the early Greek period Fortezza, Episkopi and Arkhanes were in close connexion with one another in the same geometric school of vase-painting.

## THE PALACE AT KNOSSOS.

The pottery of the Greek period from the site of the Palace at Knossos is only fragmentary; large quantities of sherds have been found from time to time, and the numbers and details at the head of each section are the numbers given to the different collections in the Knossos magazines.

<sup>1</sup> Cf. *Vrokastro*, p. 173, Fig. 106; *B.S.A.* xviii. p. 12, Fig. 7; *Fouilles de Delphes*, v. p. 134, Fig. 504; *Tiryns*, i. p. 164, Fig. 23.

'K 03. WELLHOUSE OF FOUR GYPSUM PILLARS; NORTH OF NORTH ENTRANCE.'

*Geometric.*

Only a small number of fragments was found here—fragments of lids (Pl. XIV, 1, with white decoration is typical) and of bowls and of plates; only one of these can be completed, two others nearly completed; three of them measure about 23 cm. in diameter; the ornament, arranged in concentric friezes, consists of meanders, oblongs, leaves, zigzags, and



FIG. 17.—ORIENTALISING FRAGMENTS FROM THE PALACE;  
GEOMETRIC FRAGMENT FROM THE LITTLE PALACE (p. 92).

saw-pattern: one small fragment is painted with the veined leaf which ornaments the oinochae neck from Arkhanes, No. 47.

*Orientalising.*

A piece of a lid is black, with the ornament, a stylised version of the oriental 'sacred-tree' added in white (Pl. XIV, 11). There are three fragments painted with cable-patterns, Fig. 17, so drawn that the intervals are rectilinear; this is frequently noticeable in Cretan renderings of the cable and of the cable-square, which is found on a few pieces from Knossos (*B.S.A.* xxix, p. 278, Fig. 34, 54).

'K 03 WEST OF THEATRAL AREA. ABOVE KAMARES DEPOSIT.'

This deposit, excavated in 1903, contained sherds dating from the L.M. I period to the early orientalising period.

#### *L.M. I.*

Small cups of fine fabric are represented—brilliant yellow surface, and red or black paint, some plain, others with offset rim<sup>1</sup>; and bowls which are evidently of the shape of B.M. A. 687; the decoration consists of spirals and running floral patterns. There are fragments of larger vases with the flower and plant ornament shewn in *P. of M.* ii. p. 470, Fig. 276, *g*, and with combinations of spirals and branches of leaves (cf. *B.M. Cat. A.* 654, *i*), and fragments of open bowls with wave-patterns between bands; on these the crackled surface of the varnish, which is common in both Minoan and Mycenaean pottery at this time, is noticeable.

#### *L.M. II.*

The L.M. II fragments comprise pieces of large jars of red clay, with a yellowish slip, smoothed, and painted in red or black with large rosettes and flowers, bands of leaves,<sup>2</sup> and substantial formal scrolls and spirals.

#### *L.M. III.*

The L.M. III fragments are numerous but not varied; the clay is covered with a white or cream or yellow slip, varying considerably in quality and lustre; the decoration, black or red, consists of ornaments which are almost reduced to geometric shapes—similar to those of B.M. A. 726<sub>1</sub> and 726<sub>2</sub>, and A. 709, 722, 723, 731. A few pieces are painted with a double axe; this is losing its curvilinear shape (*P. of M.* ii. p. 437, Fig. 254) and becoming two rather shaky triangles, solid or crosshatched.<sup>3</sup> There are a few bedraggled rosettes, and rough freehand circles with shapeless blobs inside them.<sup>4</sup>

Three pieces deserve more notice Pl. XIX, 5, 8, 9. They are apparently from kraters of the shape of the Mouliana goat krater.<sup>5</sup> Some sherds

<sup>1</sup> The shapes of *B.M. Cat.* Vol. 1, part I. A. 636, 637.

<sup>2</sup> Cf. Evans, *Prehistoric Tombs of Knossos*, Figs. 141(a), 142 (a).

<sup>3</sup> On a protogeometric vase, cf. *Vrokastro*, p. 162, Fig. 98.

<sup>4</sup> Compare this on Late Mycenaean vases, *B.M. Cat. A.* 1015, 1051, 1076.

<sup>5</sup> Cf. *Eph. Arx.* 1904, Pl. 3.

from vases of the same shape were found in the Little Palace; all are treated together below, pp. 90, 91.

*Protopottery and geometric.*

In describing the protopottery and geometric finds—all fragments—I shall try to shew the relative commonness of the different types; for this purpose I shall count only those pieces of which the shape is quite certain.

*Krater with offset rim.*

*Protopottery.*

The very close resemblance between this shape and the mainland Mycenaean type and the goat krater from Mouliana is obvious; the type is common in the protopottery period, and there can be no doubt that it came to Crete from the mainland at the end of the Bronze Age; it is unknown in the geometric period.

The shape is represented here by seven certain examples; they vary in colour from yellow to buff, in the colour of the paint from red to black, and in quality of the fabric from poor to good. The inside and at least part of the outside of the rim are painted: below the rim there is often a wavy line (an ornament common on protopottery vases, and on a large class of the latest Mycenaean pottery the only decoration). Groups of concentric circles, sometimes with a central motive, decorate the body. Pl. XIV, 9, 13.

*Krater without offset rim, bell-shaped.*

*Protopottery.*

Only two rims from these vases were found. The bodies are decorated with groups of concentric circles joined by zigzags<sup>1</sup> and of semicircles hanging from the rim. Many large fragments from the bodies of eight different kraters occur here, but whether they were of this shape, it is impossible to tell; again the ornament consists of groups of concentric circles, sometimes with a central motive. Two fragments, which may be but are not certainly of this shape, have rectilinear ornaments of the straggling, open style typical of the protopottery period.<sup>2</sup> Pl. XIV, 10, 16.

<sup>1</sup> Cf. *A.J.A.* 1897, p. 252, Fig. 2.

<sup>2</sup> Cf. *Vrohastro*, p. 168, Fig. 101; Pl. XXIX.

*One-handled cups.*

Fragments of a dozen cups of the shape of Nos. 40, 41 were found here; they differ in no way from the black cups found elsewhere in Crete.

One complete cup, Fig. 10, No. 49, 6 cm. high, is painted with bands and lozenges instead of solid black. There are two others in fragmentary condition, the one with similar decoration, the other with groups of concentric circles on the shoulder panel.

For a similar cup with a field of decoration cf. *B.S.A.* ix. p. 320, Fig. 20.

*Cups of bell-krater shape.*

Of the usual protogeometric type, with a conical foot. Three are decorated in the usual way, the upper part of the body black. One shews a new scheme—a zigzag line between the handles (Pl. XIV, 15).

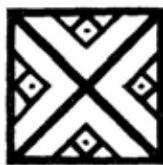


FIG. 18.



FIG. 19.

*Skyphoi with offset rim (cf. No. 19).*

About a dozen examples, in fragments. The ornament is painted in a panel between the handles; it consists of rows of zigzags, groups of short strokes, lozenges, crosses, divided squares, and the common design shewn in Fig. 18. In one the rim and the outer edges of the panel are painted white. Fig. 19 shews a fragment of unusually good fabric.

There are fragments of eleven large bowls of the same shape: they cannot have been less than 18 cm. in height and 20 cm. in diameter.

*Bowls with straight sides, or a slight curvature near the rim.*

These are shallow and in the lower part curve rapidly to a small ring foot<sup>1</sup>—a Bronze Age form, indeed probably the commonest form of Late

<sup>1</sup> Cf. *B.M. Cat.* A. 956, A. 955.

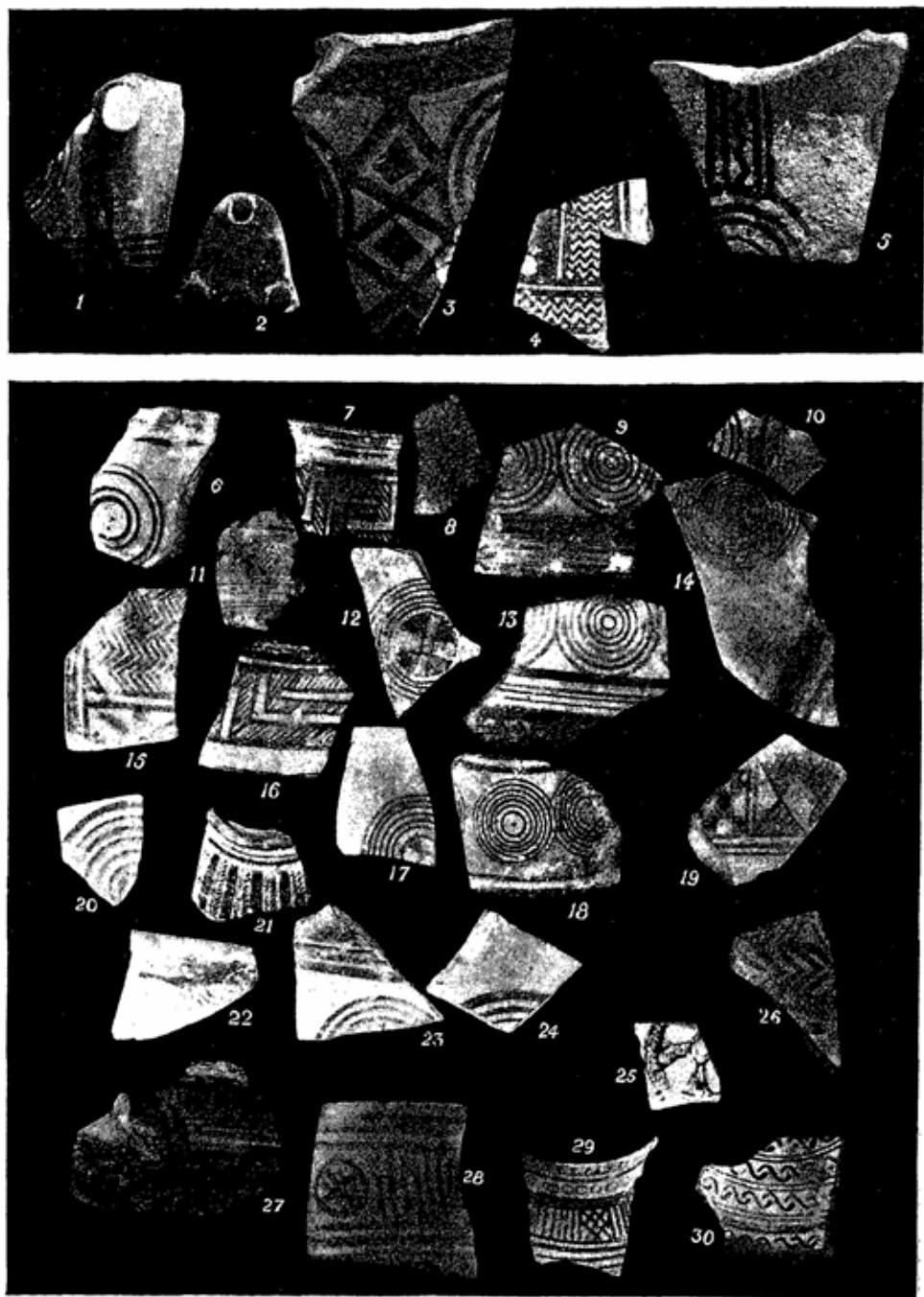


FIG. 20.

Mycenaean B pottery<sup>1</sup>; in Crete it is rare at that period,<sup>2</sup> but fairly common in the Greek period. From this deposit there are large portions of three such bowls, and a small fragment of unusually good fabric, Fig. 20, 1.

There are in addition many fragments of plain round bowls with no handles and no foot; they are both protogeometric and geometric; only one geometric piece, painted with white, shews any attempt at careful ornament, and none are at all elaborate.

*Cup fragments.*

1. From a cup without offset rim (Pl. XV, 1). Diameter not more than 9 cm., height remaining 7 cm. Good fabric; very thin and smooth. In the frieze of ornament there is the break of a handle; the cup was perhaps of the shape of protocorinthian kotylai.

2. Pl. XVI, 25. Painted black inside and outside; on the outside, in white, an animal; it has claws at the end of one long straggling limb; the body was apparently rendered with stripes. What object the two white lines on the right represent I do not know.

3. Pl. XV, 9. Ht. remaining 9 cm. Painted black inside. In the small square panel, a tiny clay knob<sup>3</sup>; the small blobs of paint around it have been outlined with some sharp incising instrument; a similar use of incision, presumably experimental, occurs on another sherd from this deposit. For the band of interlacing loops, compare *B.M. Cat.* A. 961. It is very rare in the geometric period, but it occurs on another fragment from this find and elsewhere at Knossos.

4. Protogeometric. Pl. XV, 2. Poor fabric, dull paint. Solid triangles are a common ornament of protogeometric vases in Crete; the frieze decoration near the bottom is the source of the NN pattern which is commonly found upon Cretan geometric and protocorinthian vases, and of the patterns, □■, which are very common upon Cretan geometric vases, and went on into the sub-geometric period,<sup>4</sup> becoming a favourite motive of protocorinthian artists.

5. Pl. XVII 4, 6. A beautiful fragment, golden brown, very smooth and thin and highly polished, with lustrous black paint. Evidently the

<sup>1</sup> On the origin and history of the shape, see *B.M. Cat.* p. 174.

<sup>2</sup> *B.S.A.* Supplement, pp. 113-4, Fig. 99; *B.S.A.* ix. p. 319, Fig. 19.

<sup>3</sup> Cf. No. 5 from Fortezza. Similar knobs on vases from Kavousi are outlined with a ring or with a circle of little rays.

<sup>4</sup> E.g., Payne, *Necrocorinthia*, p. 270, Fig. 114.

design covered both the inside and the outside. This piece is certainly Cretan. No similar cup is known to me.

6. Pl. XIV, 8, Fig. 20, 2. A tiny handle, painted black; it projected horizontally from the rim of a cup: on the upper surface, four little lumps, underneath a little sinking at the outer end; this is clearly a translation into clay of a metal form.

#### *Kalathoi.*

A protogeometric and a geometric kalathos are about half-complete; on the form, see above, p. 74; concentric circles, zigzags and hatched leaves are the only ornaments.

#### *Deep plates.*

A very common shape; there are large pieces of fifteen examples from this deposit; in most cases the diameter is about 20 cm., and the rim 3 or 4 cm. deep. They are decorated inside with broad concentric bands, outside with friezes of zigzags, , meanders, and hatched leaves. A string would be put through one of the handles, and the plate would be hung up on the wall, the bottom side shewing. One fragment from such a plate is an unusually good sherd; it is smooth and polished, of a pale creamy buff colour, the paint is black and shining, the drawing of the water bird<sup>1</sup> precise and fastidious. Pl. XVII, 3.

The shape is old: early examples come from East Crete,<sup>2</sup> and the cemetery excavated by Dr. Hogarth; the best example is the Praesos plate, with human figures painted on both sides.

#### *Lids.*

There are twenty lids from ovoid pithoi, of the types found at Fortezza. Some have holes in the edge; there are no corresponding holes in the flat rims of pithoi—the strings passed through the lid-holes must have been tied round the handles. A good fragment is shewn in Pl. XV, 5; the pithos to which it belonged must have been one of the larger examples well over twenty centimetres in diameter.

<sup>1</sup> It is suggested that the bird is a heron; this is very likely the case. Herons, both crested and crestless, are among the favourite motives painted on early protocorinthian vases, too; some of them are extremely attenuated, but they are easily recognisable. On birds with raised wings, see *B.S.A.* xxix. p. 289.

<sup>2</sup> *B.S.A.* xii. p. 38, Fig. 16.

*Orientalising.*

There are only four lids of the orientalising period; the ornaments are the 'sacred tree' motive, and a cable.

*Pithoi—straight-sided.*

There are fragments of only three vases of this shape—two proto-geometric, one probably geometric. A large sherd shews a variation upon the shape; for the mouth has a small flat rim turning outwards, whereas, usually, the rim of the mouth is horizontal, for holding a lid.

*Pithoi—ovoid.*

There are many shoulder fragments of at least a dozen ovoid pithoi, and countless large pieces which are probably from the lower parts of the vases. The shoulder panels are filled with zigzags, lozenges, meanders, leaves, either in metopes or in continuous panels; white paint is frequently used, in the scheme seen on No. 7 from Fortezza. The star and big bird shewn in Pl. XVI, 22, would fill one shoulder panel of a four-handled pithos, or half a panel of a two-handled shape; and Pl. XVII, 1, shews a fine sherd, from the wall of a pithos; the swan with five heads, accompanied by an extra head growing up out of the ground, seems to be unique; the stylisation of the body occurs elsewhere in Crete—at Anopolis and Fortezza—and is a geometric version of a L.M. III. a. manner.<sup>1</sup>

Fig. 21, 1 is from the shoulder of a pithos—an animal with open mouth about to eat a fish. I think this is the same animal which is painted on a pithos, also from Knossos, in Candia Museum,<sup>2</sup> where the artist's interest in natural history embraces also scorpions and frogs; the two pithoi are certainly by the same hand. It may be the same animal which walks round the cup-fragment (above, p. 81, Pl. XVI, 25), again probably by the same painter. It is likely to be an otter, which has brought its prey to the river-bank to devour; the painter has, it is true, given the creature too many limbs, and unnaturally long ones, as well as too many claws; but Cretan birds at any rate have frequently too many claws on at least one foot, and even an extra limb or two is not unknown (compare the last sherd). In the case of the otter, the fault is not due to foreign influence, but to the inability of the artist to render this new

<sup>1</sup> Cf. *B.S.A.* x. p. 224, Fig. 7; p. 318, Fig. 17. Cf. also No. 14 above.

<sup>2</sup> *A.J.A.* 1897, p. 256.

subject. The attempt to shew the body seen from the front is interesting; it shews the same stylisation as the bird-fragments, above, Pl. XVII, 1.

Fragments from pithoi shew the addition of white paint to black

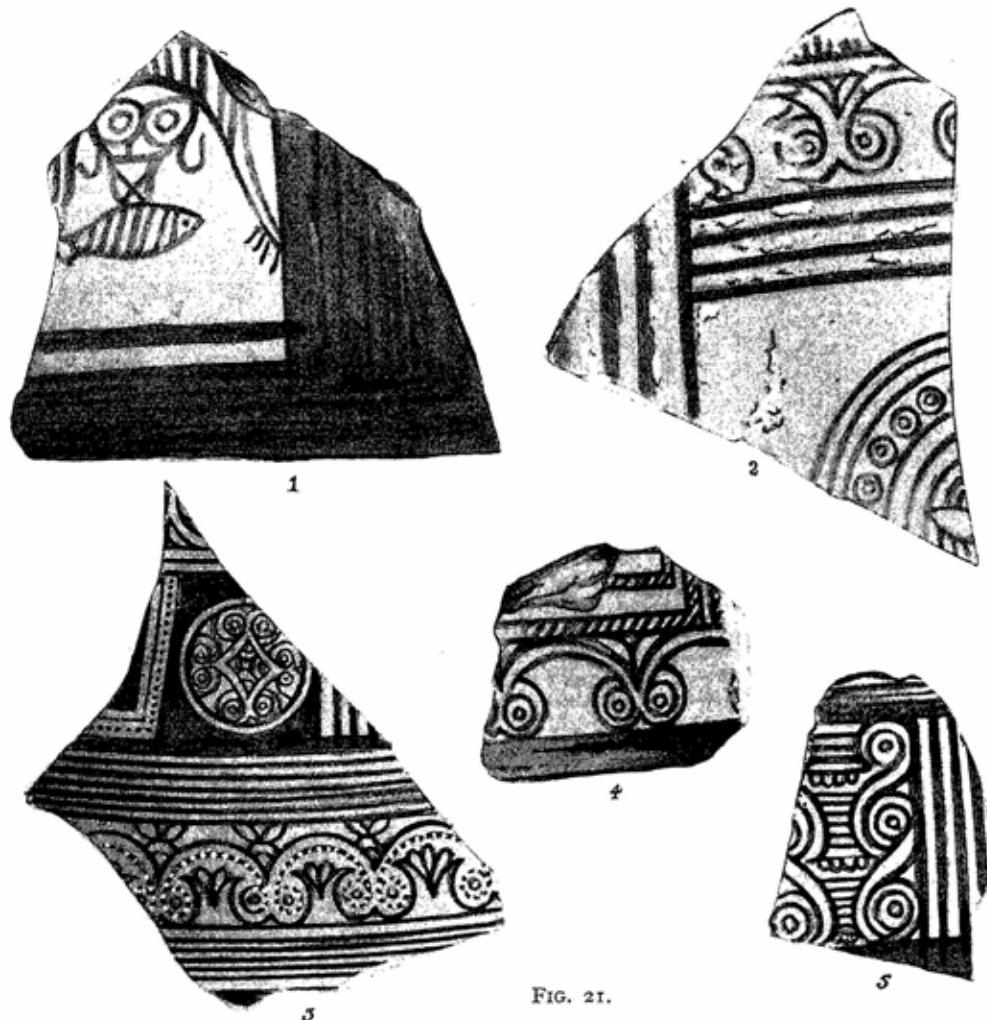


FIG. 21.

squares, variously divided, which join groups of concentric circles. It is noticeable that both protogeometric and geometric designers shew a liking for some kind of joining member between groups of circles.<sup>1</sup>

<sup>1</sup> Cf. *A.J.A.* 1897, p. 252; *B.S.A.* vi. p. 84, Fig. 26; *B.S.A.* xxix. p. 270, Fig. 32, 25, Fig. 33, 8.

*Orientalising.*

There are only very few fragments of pithoi with orientalising decoration; it is most convenient to treat them and the orientalising fragments of amphorae together.

Fig. 21, 2 is from a pithos; geometric division and borders confine the orientalising ornament.

Fig. 21, 3, a fragment from the body of a pithos, again shews geometric divisions and orientalising decoration. The frieze with white dots upon a black band is painted on an orientalising oinochoe from Knossos,<sup>1</sup> the ornament inside the circle is very near to that upon a pithos from Stavrakia.<sup>2</sup>

Another fragment, from an amphora, shews a simpler similar frieze; Fig. 21, 4, which is probably from the neck of an amphora, shews a still simpler ornament next to a meander, and the design of Pl. XVIII, 1, also probably from the neck of an amphora, is an attempt to produce the effect of an orientalising ornament by means of geometric patterns.

The pattern of Fig. 21, 4 is found on a lid, probably protocorinthian, from this deposit, Pl. XVII, 2; it seems not to occur elsewhere in protocorinthian vase painting. In these friezes, and in the figure inside the circle, there is no palmette springing from the volutes; on the body of the Cretan aryballos in Berlin,<sup>3</sup> under the handle, small loops as on an aryballos from Vrokastro,<sup>4</sup> and small palmettes grow from between the volutes of a similar figure. This is the stage in the growing prominence given to the florals which is represented in protocorinthian vase painting by the pyxis-lid shewn in Johansen, *Les Vases Sicyoniens*, Plate XII. 3; on this the rays shew the same Cretan feature—the ends divide into two volutes, supporting small palmettes; the date of these ornaments is near the beginning of the seventh century. The same stage is reached in friezes with palmettes on one of the shields from the Idaean Cave in Candia, on a sherd from Prinia,<sup>5</sup> and on a bronze mitra from Axos; a protocorinthian pyxis is also comparable.<sup>6</sup> A series of floral ornaments, all standing up,

<sup>1</sup> *B.S.A.* xxix. Pl. XI. 7-8.

<sup>2</sup> *Ath. Mitt.* 1897, p. 234, Fig. 2. On the ornament, see Schweitzer in *Ath. Mitt.* 1918, p. 42.

<sup>4</sup> *Vrokastro*, p. 160, Fig. 97a.

<sup>3</sup> *Ath. Mitt.* 1897, Pl. VI.

<sup>5</sup> *Annuario*, i. 1914, Fig. 40.

<sup>6</sup> *Argive Heraeum*, ii. 139, Fig. 69d. Cf. also helmet from Axos, Lamb, *Greek and Roman Bronzes*, Pl. XLII. a.

or all drooping down, and joined together by arcs, is the predominant floral motive in East Greek vase painting in the first half of the seventh century; none of these sherds is as late as the vases from Knossos, *B.S.A.* xxix. Pls. XX, XXI, painted with lotus and *fleur de lys* and interlacing bands. The shield from the Idaean Cave may be a little older; the date of the other friezes is very early in the seventh century.

Other ornaments, in which a palmette springing from between volutes is at the same stage of development and growing importance, are painted on the body of the griffon jug,<sup>1</sup> on a small Rhodian lebes in the British Museum,<sup>2</sup> and on a hydria from Knossos.<sup>3</sup> The more elaborate pattern which occurs on an aryballos,<sup>4</sup> and on a pithos from Knossos,<sup>5</sup> is somewhat similar. An extremely simple form of the motive is painted in the corners of the front panel of the Berlin aryballos; the volutes have not grown a flower at all, but at the most a bud—a loop, or a loop with a dot in the middle, like those under the handle. An attempt to achieve a somewhat similar effect by simple means is seen on two small fragments of bronze from Crete, now in the Louvre (A.M. 396, 397); here the place of the floral is filled by circles.

It should be mentioned here that, although the development in the florals is the same, the resemblance between these two patterns—the ornament inside the circle on the Berlin aryballos and that which stands up on the griffon jug—is not an indication of a common origin. The origin of the second pattern is to be found in the oriental *fleur de lys*, that of the first in a Mycenaean prototype. In 1897, Wide claimed that the motive inside the circle, on a pithos from Stavrakia, was a survival from the decoration which is used on a gold plaque from one of the shaft graves at Mycenae.<sup>6</sup> There is some similarity, but the two motives are not identical, nor composed in the same way. It is, however, unquestionable that the Stavrakia motive does exactly reproduce another Mycenaean ornament<sup>7</sup>; and it is to be compared with the patterns on a polychrome vase of the early orientalising period from Knossos,<sup>8</sup> on a bone seal from the sanctuary of Artemis Orthia at Sparta,<sup>9</sup> on gold and electrum objects

<sup>1</sup> *J.H.S.* xlvi, Pl. 8.

<sup>2</sup> Kinch, *Vroulia*, p. 220, Fig. 108.

<sup>3</sup> *B.S.A.* xxix. p. 248, Fig. 14.

<sup>4</sup> Johansen, *Les Vases Sicyoniens*, Pl. V. 6a; p. 59, Fig. 36; pp. 58–59.

<sup>5</sup> *B.S.A.* xxix. p. 279, Fig. 34, 35.

<sup>6</sup> *Ath. Mitt.* 1897, pp. 233–234.

<sup>7</sup> Karo, *Schachtgräber von Mykenai*, Pl. IX. 333.

<sup>8</sup> *B.S.A.* xxix. Pl. XIII.

<sup>9</sup> *Artemis Orthia*, Pl. 143, 2.

from the Artemisium<sup>1</sup> at Ephesus. A series at Ephesus<sup>2</sup> shews the elaboration of the motive by the addition of a loop or floral between the volutes—the pattern which decorates the Berlin jug; the number of the volutes varies<sup>3</sup>; and an ornament is added to the inner side of the volutes<sup>4</sup> as in the motive upon the Berlin jug, and two of the friezes from Knossos. The origin of these patterns is Mycenaean, but it is oriental influence which brings them, in elaborated form, to Crete in the seventh century.

Pl. XVII, 7 and Fig. 21, 5 shew other orientalising motives from this deposit, apparently from the necks of large amphorae.

#### *Amphorae.*

There are fragments of over twenty amphorae, as well as pieces which apparently, but not certainly, belong to this shape, and the countless large pieces, painted with broad bands, which come from the bodies of either amphorae or pithoi.

#### *Protopottery.*

There are seven certain examples; at the junction of the neck and shoulder there is a broad black band; the shoulder is decorated with groups of concentric circles—isolated,<sup>5</sup> contiguous,<sup>6</sup> or joined by a vertical row of lozenges,<sup>7</sup> Fig. 20, 3, or by zigzag lines. Fig. 20, 5 is from the shoulder of an amphora of exceptionally good fabric; for the wavy line, common in Late Mycenaean and protogeometric pottery, combined with concentric circles and straight lines, compare *Vrokastro*, Pl. XXXIII, and *B.M. Cat.* A. 970, and fragments from other parts of the Palace.

#### *Geometric.*

In the protogeometric period, the bodies of amphorae were not usually decorated with any ornament more enterprising than a few broad bands, the neck was either plain, or had a broad band painted at the top and bottom; in the geometric period, fabric and varnish improved, and meanders, meander bands, and hatched leaves were used on both neck and body. The most important pieces found in this deposit were from

<sup>1</sup> Hogarth, *Excavations at Ephesus*, Pl. VIII. 12, Pl. IX. 33-34, 41-42, 45-46.

<sup>2</sup> *Op. cit.* Pl. VIII. 23-26; Pl. IX. 35-36, 43-44, 47, 48.

<sup>3</sup> Pl. VIII. 27-28.

<sup>4</sup> Pl. VIII. 29.

<sup>5</sup> Cf. *B.M. Cat.* A. 1124.

<sup>6</sup> Cf. *Vrokastro*, p. 143, Fig. 84.

<sup>7</sup> Cf. *B.M. Cat.* A. 932 (late Mycenaean) and *Vrokastro*, p. 107, Fig. 61.

the necks of large vases—they would measure from 30 to 50 cm. in height; the larger pieces are the more carelessly painted—the meanders march unsteadily, the lines vary in thickness, the hatched lines of the leaves trespass over their bounding lines.

This find, from its fragmentary nature, can tell us nothing of the development of the shape: the patterns are shewn in Pl. XVI, 1-5, 7-11, 16-19, 21, 24.

The windmill ornament found on the hydria from Episkopi, No. 20, occurs on a few pieces. Pl. XVI, 20 will be from an oinochoe; a black panel would be painted on both neck and body opposite to the handle.

#### *Fragments of Imported Vases.*

##### *Rhodian (Camiran).*

Pl. XVII, 5. The foot of a vase: the diameter would be about 10 cm. Reddish clay covered with a white slip. The bottom, inside the ring, was painted black; on the body, preserved only to a height of 2 cm., there are horizontal stripes. The pattern shewn is on the bottom of the foot.

The pattern occurs elsewhere in Camiran style pottery—upon B.M. A. 767, on plates in the Louvre,<sup>1</sup> in Munich,<sup>2</sup> in Bâle,<sup>3</sup> from Lindos,<sup>4</sup> and upon Berlin No. 295. All these are early in the Camiran series.

The only other Camiran style vases which I have found to be painted on the base are the Levy oinochoe in the Louvre, British Museum A. 690,<sup>5</sup> and a vase in Berlin; on the base of the last two bands are painted, on the rim of the foot of the Levy oinochoe there are traces of a cable, and in the middle a kind of star. All these three pieces, while still in the seventh century, are presumably rather later than the vases on which the pattern from Knossos occurs.

#### *Protocorinthian.*

Pl. XVII, 2. From a lid; pale buff clay; fine fabric, polished surface; inside varnished all over red-black; on the outside, the inner frieze is red, the outer frieze brown, a variation of colouring which is common

<sup>1</sup> C.V.A. *Louvre*, II. D.c. Pl. I. 2.

<sup>2</sup> Münch. *Vasensammlung*, i. Pl. 16, 452.

<sup>3</sup> Zervos, *Rhodes*, Fig. 384. Cf. Kinch, *Vroulia*, Pl. 4, 1a.

<sup>4</sup> Blinkenberg et Kinch, *Lindos*, Pl. 44, 975.

<sup>5</sup> Kinch *Vroulia*, p. 214, Fig. 102.

in the protocorinthian style.<sup>1</sup> The varnishing of the inside of the lid is certainly very rare—I do not know any other example of it. The pattern of the outer frieze has been examined above, p. 85; that of the upper frieze seems not to occur elsewhere in the protocorinthian style, which favoured and developed lotus and palmette patterns with more or less elaborate interlacings; florals with no calyx, all growing in the same direction, are common in East Greek vase painting only, at the beginning of the seventh century.

Pl. XVIII, 6. Rim of kotyle; inside, painted red all over; outside, the lower part is red, the upper part black; the wall is very thin. Early protocorinthian kotyle, either varnished to the bottom, or decorated at the bottom with rays.<sup>2</sup>

#### *Attic Geometric.*

Pl. XVIII, 2-3. Both from bowls: varnished inside; Pl. XVIII, 3 shews the characteristic dot effect of the small chequer pattern.

#### 'K 03. LITTLE PALACE.'

A small number of fragments was found in various parts of the Little Palace in 1903; they are now stored at Knossos in groups according to the rooms in which they were discovered; in the following description of them this grouping is not observed.

I. *Late Minoan III. a.* Bowls with flat projecting rims (Pl. XVIII, 9) like Late Mycenaean.<sup>3</sup> Red or yellow clay, with a yellow slip. Triglyph and metope ornament, derived from the Palace Style motives, and below, hatched curvilinear triangles.<sup>4</sup> Rims of bowls decorated with running spirals and emaciated rows of leaves,<sup>5</sup> zigzags and degenerate floral patterns, fragments the types of which are uncertain, ornamented with packed series of festoons, and with curved chevrons. Rims of vases with flat shoulder and sharp curve (Pl. XVIII, 8).<sup>6</sup> Many of the fragments resemble the pottery from the bathroom, Block γ, at Palaikastro.<sup>7</sup>

<sup>1</sup> Cf. Johansen, *Les Vases Sicyoniens*, pp. 7, 36; on the intended variety of colouring, p. 36, note 7.

<sup>2</sup> Cf. *Ath. Mitt.* 1903, p. 193.

<sup>3</sup> E.g. *B.M. Cat.* Vol. I, part I. A. 1075.

<sup>4</sup> Cf. *B.M. Cat.* A. 709, A. 726.

<sup>5</sup> Cf. *B.M. Cat.* A. 731.

<sup>6</sup> For the ornament, cf. *B.S.A.* Supplement, p. 79, Fig. 63, 2; Evans, *Prehistoric Tombs*, Fig. 14.

<sup>7</sup> *B.S.A.* ix. pp. 315-317.

*II. Imported Mycenaean.* There is a fair quantity of imported Mycenaean pottery; some fragments are shewn (Pl. XVIII, 10-12, 14-20)—the rims of four cups of fine fabric, red clay with soapy yellow surface and red or black varnish (I cannot make out what the beak-like motive is in Pl. XVIII, 16), the lower edge of a cylindrical mug, and the handle of a cup (the ornament on the outside of the cup was a murex shell); there is no evidence in the Little Palace pottery that this imported shape with a high handle became fashionable or popular enough to inspire native imitations. There are a few fragments of Late Mycenaean stemmed goblets with rings painted on the stem and stylised ornaments on the cup: the fragments do not allow of restoration, but they are clearly from goblets of the tall elegant type.

*III.* In this group of large sherds the clay is coarse, either red or yellow. Pl. XIX, 1 shews the spiral complex common at Pachyammos, combined with a meagre rosette (the fabric of this piece is wretched), Pl. XIX, 3 uses fringes to outline a substantial curvilinear and spiral figure, Pl. XIX, 7 combines the system of panel divisions with chevrons and curvilinear drawing.

The shape can only be some large open vase; I think it is the shape of the Mouliana goat krater, a mainland form, and these pieces are to be put beside the fragments from the Palace (Pl. XIX, 5, 8, 9).

If this is so, plainly these are products of later date than the earliest Mycenaean influence at Knossos—in L.M. III. a. It is certain that they are not Mycenaean imports, like the cup fragments (Pl. XVIII, 14-16, 20), but of local manufacture: the significance of the new shape in Crete was seen long ago,<sup>1</sup> but the later history of the style of vase painting of the L.M. III period has remained somewhat obscure.

After the mainland form has been adopted, No. 1 shews that the taste for free Minoan design is retained, while more tired and slovenly execution could hardly be imagined; Nos. 7 and 8 shew perhaps less fanciful design, more vigorous execution. In contrast with the krater from Mouliana, and the very similar krater with four handles from Palai-kastro,<sup>2</sup> there is as yet, at Knossos, no attempt at figure-drawing which appeared there in such barbarous form; perhaps the reason is to be found in the strength of the Minoan tradition which, from whatever cause, excluded the larger animal and human subjects from all vase painting.

<sup>1</sup> *B.S.A.* xiii. pp. 428 ff. (Mackenzie).

<sup>2</sup> *B.S.A.* Supplement, p. 101, Fig. 84.

But it may be that the remarkable bird-fragment from the Palace shews the style of figure-painting of Knossos at this time. Between the Mouliana and Little Palace pieces, and the bird-fragment from the Palace,<sup>1</sup> the gulf is wide; yet the similarity in shape and fabric bring them all close together—within the latter part<sup>2</sup> of the L.M. III period.

For the use of fringes on the outline of an ornament and of straight and curved lines bounding motives of decoration, which continued into protogeometric times, compare *Vrokastro*, Pls. 29 and 32.

Resembling these pieces in fabric, there are other fragments from vases of different shapes. The system of division into panels and metopes establishes itself, patterns drawn with straight lines, or lines which almost succeed in being straight, make their appearance and Minoan flourishes are conspicuously absent (Pl. XIX, 13).

Pl. XVIII, 13 shews a fragment from the Little Palace decorated with a spiral pattern<sup>3</sup>; the shape cannot be determined. The Minoan civilisation appears to have owed its first knowledge of spiral ornament to the Cyclades, as early as the latter part of the E.M. period, to which are dated an ivory seal with a similar pattern<sup>4</sup> and vases painted with a single spiral coil.<sup>5</sup> The spiral figure occurs again later in Crete, in M.M. II times at Phaestos, with the diagonally opposite spirals joined,<sup>6</sup> and towards the end of the Palace Style at Knossos,<sup>7</sup> and at Pseira,<sup>8</sup> and Pachyammos, while the spiral coil continued in use until the end of the Mycenaean period.

None of these Cretan examples is comparable with the mainland renderings of the motive.

A very similar pattern occurs on the slim orientalising oinochoe from Fortezza, No. 14, where, however, it is due to oriental influence.

#### IV. *Protopgeometric*. In the protogeometric pottery, which is small

<sup>1</sup> It should be said that Dr. Mackenzie classed this fragment as Cretan post-Mycenaean. Cf. *B.S.A.* xxix. pp. 285–6.

<sup>2</sup> The Mouliana krater is from the very end of the Bronze Age.

<sup>3</sup> For the pattern, cf. the larnax from Zapher Papoura, Evans, *Prehistoric Tombs*, Fig. 102, a: slightly more elaborate. This spiral is similar to the simple running variety of *B.M. Cat.* Vol. I, part I, A. 982.

<sup>4</sup> Evans, *P. of M.* i. p. 117, Fig. 86, b.

<sup>5</sup> *Id.* p. 109, Fig. 76. *B.M. Cat.* A. 437. On spiral ornament in the Aegean, Forsdyke, *B.M. Cat.* Vol. I, part I, pp. xviii, xxxiii.

<sup>6</sup> *B.S.A.* Supplement, p. 26, Fig. 16, b. <sup>7</sup> Evans, *Prehistoric Tombs*, Fig. 143.

<sup>8</sup> Seager, *Excavations at Pseira*, p. 28, Fig. 9; cf. p. 19, Fig. 4. *The Cemetery of Pachyammos*, Pl. XI.

in quantity and fragmentary, neither the types as far as they can be determined from the pieces nor the decoration add anything to what is observed in the protogeometric from the Palace. A few pieces are figured Fig. 20, 8–14 side by side with fragments from the Palace, Fig. 20, 17–24.

*V. Geometric.* The same is true of the geometric as of the protogeometric pottery: examples are figured, Fig. 20, 7, 16, 30, painted with bands, zigzags, leaves, meanders, bird and the Cretan windmill pattern beside a meander, which occurs on several pieces, that do not belong to the same vase. Pl. XV, 11. A fragment from a bowl is shewn in Fig. 17.

*VI. Imported.* There are two fragments of Attic geometric pottery, both from bowls—Fig. 22, (1, 3). The other imported pottery—a fair amount—is Hellenistic and of no interest.

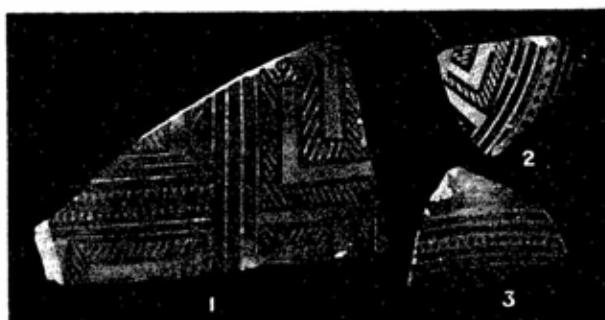


FIG. 22.—GEOMETRIC FRAGMENTS.

#### 'PALACE. SITE OF GREEK TEMPLE.'

Some Greek pottery was found on the site of the Greek temple in the Palace area,<sup>1</sup> but it is of little interest. Most of it is Hellenistic—over thirty stemmed cups,<sup>2</sup> all in fragments, and a few bulging bottles.

The earlier pottery consists of fragments of a few geometric and possibly protogeometric cups, black and one-handled; two skyphoi with offset rim; a geometric krater with offset rim.

A fragment of more interest is from the wall of a little bowl, smudgily painted black inside and outside, and with impressed ornament below the handle; the handle is a small roll of clay, shaped and ridged, stuck on to the side of the vase. An illustration of the fragment is given on

<sup>1</sup> Evans, *P. of M.* ii. pp. 5–7.

<sup>2</sup> A considerable number of similar cups was found in 1930 near the Palace.

Pl. XVIII, No. 4. The ornament recalls that found on a plate-fragment from a tomb excavated in 1899<sup>1</sup>: the motive is restored in Fig. 23. The impressed technique may be an attempt to express in pottery some idea inspired by a metal tray, just as the handle of this small bowl from the Palace, too, shews metallic influence; another very early plate, from the east of the island, is roughly decorated in the same way.<sup>2</sup>

A small plastic animal from the site of the temple is shewn below, Fig. 33, 4.

'Koo. FROM DIFFERENT AREAS AND DEPOSITS OUTSIDE THE PALACE,  
VERGING ON GEOMETRIC LOCALITIES.'

This small quantity of fragments was found in 1900.

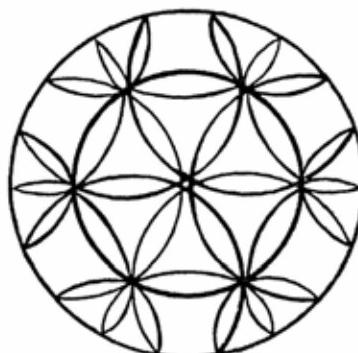


FIG. 23.

*Protoprotofometric.*

Krater with offset rim, a small and a large amphora with groups of concentric circles on the shoulder.

*Geometric.*

Skyphos with groups of concentric circles between the handles; a large skyphos of the same shape, decorated with meanders, meander bands and the motive shewn in Fig. 12. Five lids of the tin-helmet shape, and six plates with decoration on the outside, and a few black one-handled cups. There are a few fragments which seem to come from three pithoi decorated with meanders and zigzags: one shews the

<sup>1</sup> *B.S.A.* vi. 82-85: the plate is not photographed.

<sup>2</sup> *Ibid.* xii. p. 38, Fig. 16.

division into metopes that is found on pithos No. 7 from Fortezza. A small horse's head from a lid is shewn in Fig. 33, 2, 3.

*Attic.*

A small piece of a cup.

'K 30. WEST OF THEATRAL AREA: TRENCH NORTH OF ROAD.'

*P. III. ; T. 10.30, T. 11.30, T. 12.30, T. 13.30, T. 14.30.*

No complete or nearly complete vases have been found; the trench has been dug to a depth of two metres and the earliest pottery that has



FIG. 24.

so far (1930) been uncovered consists of fragments of Middle Minoan bridge-spouted bowls; a piece from a Late Minoan I cup is figured in Fig. 24, 1.

*Protogeometric.*

The common types occur—fragments of about a dozen cups, bowls, and four kraters with offset rim: there are fragments of three kraters without offset rim of unusually small size (Fig. 25); pieces from the neck and shoulder of amphorae are painted with a broad band and on the shoulder three have groups of concentric circles, one a wavy

line running downward from the band, and five the figure shewn in Fig. 24, 10.<sup>1</sup>

*Geometric.*

Three, possibly more, pithoi, one with ram's head double handle (cf. Episkopi, No. 21); the decoration consists of meanders, closely



FIG. 25.

packed zigzags, diamonds and meander bands; nondescript lids, and several skyphoi.

*Imported.*

*Rhodian.*

A fragment from the rim of a large dinos: reddish clay, covered with a white slip; on the upper surface a black cable (Fig. 26, 2).

*Attic.*

A scrap of geometric, from a lid (Fig. 22, 2) and a piece of red figure shewing folds of drapery.

'K 30. WEST OF WEST COURT.'

*Great west wall. Area south of ramp. N. 26. 30.*

A large quantity of fragments was found in 1930.

*Amphorae.*

Four protogeometric amphorae of very poor fabric are painted with the ornament shewn in Fig. 24, 10 (cf. above, p. 94); in one piece it is eked out by concentric circles: numerous fragments of eight amphorae shew concentric circles on the shoulder, one with three groups, one resting on the other two, an inversion of the arrangement shewn in *Vrokastro*, p. 143, Fig. 84.

<sup>1</sup> Cf. *B.S.A.* xxv. Pl. X, e, and in orientalising period, *B.S.A.* xxix, p. 249, Fig. 14.

Large pieces of ten or eleven geometric amphorae are decorated with meanders, zigzags, double-hatched diamonds, leaves, meander bands, and in one case meander, zigzags, concentric circles, and a kind of dot-rosette (Fig. 27, 3). From the body of an amphora, Fig. 24, 10.



FIG. 26.



FIG. 27.

### *Pithoi.*

The numerous pithos fragments are geometric; seven vases at least had groups of white concentric circles and white stripes on black bands, and about a dozen had meanders, circles, zigzags, meander bands and the ornament shewn in Fig. 18. The most sketchy drawing of all Cretan bees is on a fragment, apparently of a very large pithos, Fig. 26, 3.

*Skyphoi and bowls.*

The fragments from skyphoi are innumerable : at least twenty small and two large vases are represented ; they vary in fabric and in the carefulness of the ornament ; the ornaments themselves and their arrangement are the same as in skyphoi from the other finds already mentioned.

Some bowl fragments of irregular shape occur : Fig. 24, 6 with rivet-holes for repairing, has a very small rim, only slightly aslant : there are several fragments from a large bowl varnished black, and outside decorated with three series of white bands and two friezes of groups of concentric circles. White is modestly used on three smaller specimens (Figs. 24, 3; 27, 5, 6). Fig. 27, 6 shews a sherd from the shoulder of a bowl, on which an attempt is made to produce the effect of a cable-pattern by geometric figures.

*Kraters.*

Six protogeometric kraters without offset rim, three with rim offset (one has hatched leaves and concentric circles on the body).

*Lids.*

Many fragments, mostly small ; five had zigzags, bands and friezes of meander painted in white on a background of black varnish. There are in addition many fragments of black one-handled cups, plates, a few pieces of kalathoi, and a scrap of an aryballos Fig. 27, 4 with concentric circles, set vertically on the sides, and groups of circles down the front. Fig. 27, 2 shews a piece of a cylindrical vase, as it seems, with a ledge inside for the rim of a lid to rest upon.

## 'K 27. MAVRO SPELIO. TOMB IV.'

In 1927, in the fourth tomb excavated by Mr. Forsdyke at Mavro Spelio,<sup>1</sup> one-handled black cups were found, and unpainted pithoi with low neck and loop-handles on the shoulder<sup>2</sup> and a decorated lid (Fig. 26, 1). Diam. 26 cm., buff clay, black paint : very thick and of an unfamiliar type—flat, with a projection on the underside to fit inside the circle of the mouth of the jar. It did not belong to any of the vases found in the tomb : it is clear that it did not belong, either, to the usual type of geometric pithos—ovoid with no neck, but with a rim for a lid

<sup>1</sup> *B.S.A.* xxviii. p. 254.

<sup>2</sup> Of the type discussed below, p. 109.

to rest upon : it probably belonged to the very much rarer type with a neck—and obviously an unusually large example.

'HOGARTH'S CEMETERY. 29. A.B.'

Two small collapsed tombs were re-excavated by Mr. Payne in 1929 near to the tombs dug by Dr. Hogarth in 1899.<sup>1</sup> Various polychrome fragments were found, but no vases can be restored : both paint and slip peel off very readily and many fragments have lost all their ornament.

Tomb B.

A fine sherd, painted with lustrous black varnish (Pl. XX, 1), from a wide bowl was picked up from the ground outside the tomb : it was this find which led to the excavation. The cable-pattern with solid painted centres was a favourite at Knossos among the Eastern motives : other pieces were found in this tomb, painted with the same ornament in blue and red on a thick white slip—the technique already familiar at Knossos and Fortezza.<sup>2</sup> In all the pieces from this tomb—from several different vases, as the variety in the shades of red and blue shews—the cable is painted in blue, the solid patches in the middle and at the outside in red (Pl. XX, 2). A less elaborate cable square is found with the same division of the colours, beside what is evidently a bee, a favourite motive.

Several large pieces of one pithos are preserved, on which the decoration is entirely geometric (Pl. XXI, 4, 7) ; here red is the predominant colour<sup>3</sup> : as no complete polychrome pithos shews purely geometric decoration, it seems likely that this specimen too admitted orientalising motives, though possibly grudgingly—as one pithos from Knossos,<sup>4</sup> where the eastern ornaments are allowed very little space in which to shew themselves—but by chance no fragments of the parts on which the orientalising motives were painted are preserved. These fragments use very much the same ornaments as the complete pithos, and are, probably, of the early orientalising period.

<sup>1</sup> *B.S.A.* vi. pp. 82–85. The sherds shewn in *B.S.A.* xxix. Pl. XXIII, 3 and p. 243, Fig. 11, a, are from these tombs.

<sup>2</sup> *B.S.A.* xxix. pp. 240, 280. On the origin of the style, p. 281.

<sup>3</sup> On the relative dating of the polychrome pieces by considerations of colouring, cf. *B.S.A.* xxix. p. 283. <sup>4</sup> *B.S.A.* xxix. Pl. XII.

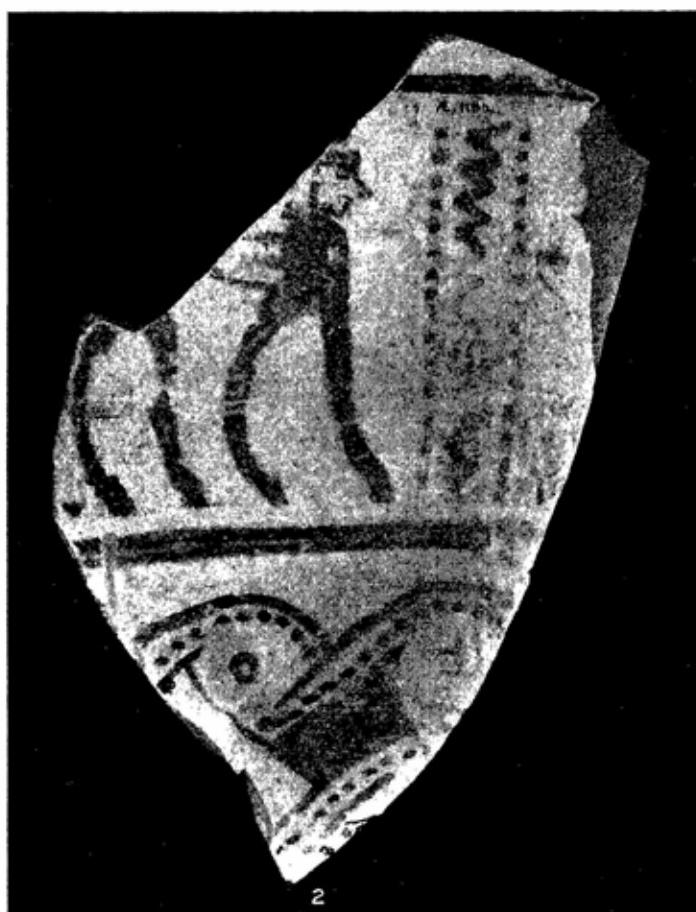


FIG. 28.

Pithos handles and rims were recovered, and the only other shape that is represented is the pithos lid<sup>1</sup>: in these, too, blue is usually but not always subordinate (Pl. XX, 5, 7, 8).

#### Tomb A.

In this tomb only three large fragments are decorated in the black varnish technique, with geometric patterns—large meanders; there are,

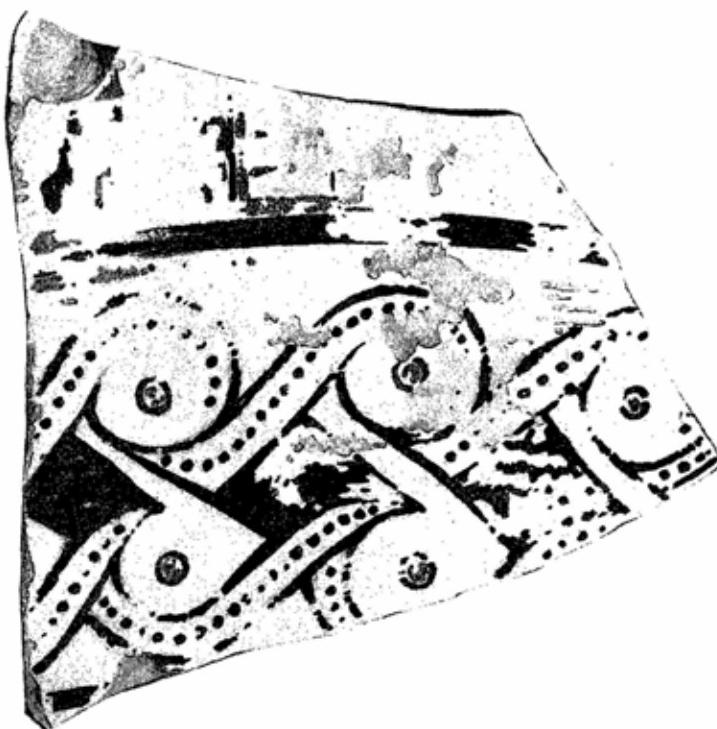


FIG. 29.

however, a few pieces of the orientalising period, on which the early motive occurs that was found among the Palace fragments. Motives from small polychrome fragments are shewn in Pl. XX, 4, 9, 10.

An interesting fragment, unfortunately very small, shews the head and sickle-shaped wing of a sphinx (Fig. 28, 1), the face painted in outline, the wing in silhouette; this and a large fragment are from the

<sup>1</sup> For the other shapes that are known in the style, see *B.S.A.* xxix. p. 282.

same vase as a fragment in Oxford<sup>1</sup>, Fig. 28, 2 : the style and date have already been discussed.<sup>2</sup> Figure painting is very rare in Cretan pottery, but sphinxes are among the favourite motives of seventh-century moulded pithoi, and occur on the figure-painted pottery from Afrati.<sup>3</sup> The large sherd ornamented with a cable shewn in Fig. 29 belongs to the same vase.

Some pieces on which a cable is painted resemble those of Tomb B—the outlines are blue, the solid patches red (Pl. XXI, 3). A floral motive from the lower part of a pithos (Pl. XXI, 2) recalls that which occurs between the feet of fragments of a pithos from Fortezza<sup>4</sup>; it is a



FIG. 30.

freer version of the floral and volute pattern that has been observed on other early orientalising vases : it is certainly among the later ornaments that are found in this pottery. Pl. XXI, 3 shews an ornament in which the floral is quite subordinate—the volutes are emphasised as in the Melian and Afrati vases so that the character of the pattern is entirely changed.

Three fragments from this tomb shew the fashion<sup>5</sup> of renovating an old vase, painted in the black-varnish technique, by giving it a thick

<sup>1</sup> *C.V.A. Oxford*, II. A. Pl. I, 9, p. 53. The wing of the Oxford sphinx is missing. I reproduce the Oxford fragment by the kind permission of the Keeper of the Ashmolean Museum and the Clarendon Press.

<sup>2</sup> Payne, *C.V.A. Oxford*, p. 54. *B.S.A.* xxix. p. 286.

<sup>3</sup> *Liverpool Annals*, 1925, Pl. V, b.

<sup>4</sup> *B.S.A.* xxix. Pl. XXI, 2.

<sup>5</sup> Cf. Payne, *B.S.A.* xxix, p. 281.

white slip and painting upon it with the blue and red that were in vogue : the new ornament is put on top of a geometric figure (series of stripes and a broad band) (Pl. XXI, 6<sup>1</sup>) or upon a black frieze with groups of white concentric circles (Pl. XXI, 5) ; here the new ornament is a blue and red bee : on the third fragment the blue paint has peeled off to shew a geometric water bird, originally white, painted on a dark band (Fig. 30) ; the form of the bird's body and tail, here very well drawn, is extremely rare ; it occurs on a polychrome pithos<sup>2</sup> from Knossos. Enough remains to shew that this vase was not by any means worthless when it was painted in the old fashion ; whatever may be the reason for the renovation, it is clear that it was not only poor vases that were given the new fashionable treatment.

The fragment from the mouth of a pithos,<sup>3</sup> on which pretty, pale yellow birds are painted, comes from this tomb. No other piece shews the same three-colour technique as this fragment.

It is seen, then, that the pieces from these two tombs which are decorated in the black-varnish technique are either orientalising or covered with meanders in the packed, developed geometric style ; in the polychrome fragments the geometric elements of the decoration are more widely spaced, and variety of colouring is relied upon to compensate for the simplicity and sparseness of the ornaments ; the vases were undoubtedly of large size—their size, the scale of the figures and the use of two colours are sufficient cause for the thickness and heaviness of the actual drawing of the ornaments : by far the most delicate piece is the fragment with the little yellow birds ; this and the floral and volute motives (Pl. XXI, 3) are the latest and most developed pieces, the fragment with the sphinx's head is not much earlier, the pithos of which the largest number of pieces is preserved (Pl. XXI, 4, 7) must be very early in the polychrome style. The only piece which shews a running floral ornament, and even here it is not quite certain, is the fragment shewn in Pl. XX, 4.

The vases from Episkopi, Fortezza, Arkhanes, and the fragments from Knossos are all to be classed together, with the vases in Candia from Knossos, Fortezza, Anopolis and Stavrakia ; the shapes, fabric, elements and arrangement of decoration are the same in all, and it is clear that

<sup>1</sup> Cf. Payne, *B.S.A.* xxix. p. 243, Fig. 11a.

<sup>2</sup> *Ibid.*, Pl. XIX, and p. 290.

<sup>3</sup> *Ibid.*, Pl. XXIII. 3.

there was one artistic school, the influence of which was predominant in North Central Crete in the early Greek period. The numbers and variety of the finds that have so far been made point to Knossos as the home and centre of this artistic influence.

The products of this school differ widely from the vases of other places in Crete—for example, Kavousi, Vrokastro, Praesos and Kourtes; the closest affinities are with Kourtes, which is geographically nearest to Knossos.

The geometric vases and fragments shew the style at a fairly developed and mature stage; the characteristic patterns are executed with greater sureness and combined with more imagination than on the most developed pieces from Vrokastro (*e.g.* *Vrokastro*, p. 106, Fig. 60, *d*; p. 159, Fig. 96; Pl. XXVIII) and though some pieces, especially the larger, are rather roughly painted, there is nowhere such failure to master the theme as occurs in the halting attempts at geometric painting from Adhromyloï. There is, of course, no comparison between the rich Dipylon style and the style at Knossos as it is shewn in these vases and fragments; one glance at a plate of fragments is enough to shew this. The hatched swastika motive, which is used most effectively in the Dipylon style, never occurs; geometric animals are very rare, human figures are not found at all. The fragments cannot shew with what degree of intelligence and imagination Cretan artists grouped their ornaments inside their frame; but no one would expect, and the complete vases do not suggest, that they can ever have rivalled the Athenians. It is clear, however, that in the early Greek period the Cretans were by no means helpless in geometric drawing; and such a piece as the small bird-fragment would not pass unnoticed in fragments of the work of any geometric school. For it shews that decision which is the first quality of the style, and remarkable delicacy of drawing.

Although thoroughly badly-shaped vases do occur, in general the forms of the geometric period have something of that compactness and sedateness which are so noticeable in the vases of the Dipylon style. Two other qualities are to be observed, which seem at first to be contradictory. First, restraint in the use of ornament. If Dipylon vase-painting is rich and generous in the use of decoration, but thrifty in its choice of motives, Cretan geometric is grudging and parsimonious in both. This quality, of course, is common to other geometric schools, and nothing could make a clearer contrast with the lavish ornament of Minoan vase painting. Secondly,

there is a marked readiness both to adopt fresh elements and to attempt new problems (see, for example, the many-headed swan Pl. XVII, 1 and the animal with a fish Fig. 21, 1). This second quality persists even more noticeably in the vase painting of the orientalising period.

The relations between the protogeometric and geometric styles require a few words. The difference between the pottery of the two periods is very wide, both in fabric and ornaments. The difference in fabric and technique has been described elsewhere<sup>1</sup>; as for the decoration, apart from groups of concentric circles, almost no motive passes from the earlier to the later period except the simple motives, such as zigzags and lozenges, which are universal in all styles that use geometric ornaments. The geometric decoration is of quite formed and defined character, even though it never reaches a stage of rich development. There is very little really early geometric, and almost nothing that can rightly be called transitional from the protogeometric to the later style; perhaps protogeometric is not a happily chosen name for the earlier period. Of the development of particular shapes in each period, the Palace fragments can naturally give no evidence; but it is clear from what is already known about the shapes of protogeometric and geometric pottery of Knossos and North Central Crete that in the forms no less than in the technique and ornament the break between the two periods is strongly marked. It is not only that new forms come in with new motives; many of the most important protogeometric shapes disappear at the same time.

The evidence of the Palace sherds is perhaps particularly important, because such sharp breaks in development are less to be expected in a natural deposit of this kind than in an intentionally and, so to speak, artificially accumulated store, such as the stores of tombs. It has been tempting to believe that the new style signifies the coming of a new people, and that so sharp a break between the two styles cannot be explained by any other cause. As long ago as 1907<sup>2</sup> the significance of the appearance of mainland forms in Crete was appreciated, and the protogeometric vases were thought to be the work of the newly arrived Achaeans; the geometric would be that of the Dorians. And gradually it has become almost an axiom that the geometric style in Greece is the style of the Dorians, introduced by them into their new homes.

But the difficulties that stand in the way of the identification of the

<sup>1</sup> *B.S.A.* xxix. pp. 267, 272.

<sup>2</sup> Mackenzie, *ibid.* xiii. pp. 428–445.

users of the geometric style as incoming Dorians have always, indeed, been felt,<sup>1</sup> and have recently been fully propounded.<sup>2</sup> Perhaps it will be found to be possible to explain the change in styles by proof of the establishment of new relations with other parts of the Mediterranean world, without an entire change and great movement of peoples—just as a new style was produced in the seventh century by the establishment of fresh contact with the Orient.

The well-formed character of what is apparently the earliest geometric style at Knossos suggests, at least, that whoever first affected the style there<sup>3</sup> had already been in touch with the more advanced parts of Greece. I have mentioned that a great difference can be observed between the pottery of North Central Crete and that of Kavousi, Vrokastro, and Kourtes; but the pottery from these towns is, on the whole, earlier, as well as poorer, than the products of Knossos and the neighbouring districts; it may be found that it was at these places in the east end of the island that the new methods and manners of drawing and design were first followed, as well as the new shapes, and by the time they reached Knossos they were by no means new to the island.<sup>4</sup> And the East Cretan geometric style appears to be nearer to that of Thessaly than to that of Attica. It is, however, before the early local styles of Crete and Thessaly have been more fully examined, still too early to emphasise the traditions concerning the racial connections between Thessaly and Crete.

The geometric school of North Central Crete has affinities, too, with Rhodes, both in types and ornaments; the connection between the two islands becomes closer in the orientalising period, and is very certainly shewn by the finds from Afrati. With the 'Euboic-Cycladic' or 'Parian' style,<sup>5</sup> too, the Cretan style is connected at the end of the geometric period and in the orientalising period: for this aspect, again, the vases of Afrati are valuable evidence. Moreover, Crete was specially

<sup>1</sup> Cf. *B.S.A.* xxix, p. 229, and Wide's theory of a *Bauernstil* and *Herrenstil* existing side by side.

<sup>2</sup> Myres, *Who were the Greeks?* pp. 473–483.

<sup>3</sup> Cf. Payne, *B.S.A.* xxix, p. 230, on a new strain in the population from 'civilised' Greece.

<sup>4</sup> It is possible that this happened at the end of the Minoan Age as well as at the end of the protogeometric period; compare, for example, figure-drawing of Knossos and the East at the end of the Bronze Age; protogeometric shapes and motives at Knossos and at Kavousi or Vrokastro; the sure geometric style of Knossos and the feeble attempts to grasp the new motives on the vases found near Adhromylo and on vases 'from Siteia' in Candia.

<sup>5</sup> Cf. Payne, *B.S.A.* xxix, p. 286 and pp. 290–291.

open to influence from Cyprus<sup>1</sup> and very readily adopted Cypriot forms and motives; it is to be expected that Cypriot metal work made a great impression. The mainland school that was in turn most influenced by the vase painting of Crete was the protocorinthian.

#### PLASTIC FRAGMENTS.

1. Fig. 31. A small clay head,<sup>2</sup> 7 cm. high, was found in the Little Palace. It is baked hard and decorated with varnish paint, and evidently



FIG. 31.—HEAD FROM THE LITTLE PALACE; PLAQUE IN THE LOUVRE.

belonged to a vase. The top and back of the head are flat; the hair is waved at the sides, and across the forehead is curled in two rows of spirals; it is not waved at the back—it would not shew when the head was in position on the vase. There is a break at the bottom, no break at the top, so clearly the head was not attached in the manner of the heads of Corinthian pyxides, but projected from the body of the vase—an arrangement which is found in the pottery from Afrati,<sup>3</sup> and may be inspired by metal models.

The cheeks are flattish; in its proportions the face resembles that

<sup>1</sup> Cf. Johansen, *Les Vases Sicyoniens*, pp. 56–66; *B.S.A.* xxix. pp. 248, 254, 256, 280–281; above, pp. 62–64, 71.

<sup>2</sup> This is the head mentioned by Payne, *Necrocorinthia*, p. 293, note 3.

<sup>3</sup> *Liverpool Annals*, 1925. Pl. V. b.

of the figure from Auxerre<sup>1</sup> in the Louvre. The waved hair and the straight row of spiral curls upon the forehead are commonly found in the seventh century, and the low flat head is characteristic of figures of the Cretan school; compare, for example, the heads upon the Rethymno mitra,<sup>2</sup> on the Crowe corselet from Olympia,<sup>3</sup> on a cut-out bronze plaque from Afrati, now in Candia,<sup>4</sup> and the Cretan bronze plaque in the Louvre,<sup>5</sup> and on the Odysseus jug from Aegina.<sup>6</sup> The sculptures from Mycenae, the proto-corinthian heads from Thermon, and the Delphic twins are nearly related.



FIG. 32.—CRETAN HEAD IN THE LOUVRE.

M. Michon kindly allows me to publish here a clay head from Crete, now in the Louvre, Fig. 32. It is interesting to compare the two; the Louvre head recalls the Eleutherna statue.<sup>7</sup> A comparison of the Louvre head and the Knossos head with a Cretan plaque in the Louvre,<sup>8</sup> Fig. 31, which, also, I publish by the kind permission of M. Michon, and the bronze statuette from Delphi<sup>9</sup> suggest that the two former must

<sup>1</sup> *Mon. Piot.* xx, 1913, Pl. I.

<sup>2</sup> *Ath. Mitt.* 1906, Pl. XXIII.

<sup>3</sup> *Olympia* iv, Pl. LIX.

<sup>4</sup> *Annuario* x-xii, p. 28, Fig. 8.

<sup>5</sup> De Ridder, *Les bronzes antiques du Louvre*, Pl. II; Lamb, *Greek and Roman Bronzes*, Pl. XIX.

<sup>6</sup> *Ath. Mitt.* 1897, Pl. VIII.

<sup>7</sup> *Revue Archéologique*, 1893, Pl. III.

<sup>8</sup> Cf. v. Müller, *Frühgriechische Plastik*, Pl. XXX, 333; Payne, *Necrocorinthia*, Pl. 47, 2.

<sup>9</sup> *Fouilles de Delphes*, v, Pl. III.

be considerably older, perhaps not later than the middle of the seventh century.

2. Fig. 33, 1. A small dog's head was found in the Little Palace; it probably projected from the rim of a vase; a position on the body is less likely, as the dog's neck is quite straight and was evidently meant to be set in a horizontal position. It is perhaps the end of the handle of a clay copy of a bronze patera.<sup>1</sup> It belongs to the early archaic period.

3. Fig. 33, 4. A small head, with a blunt nose, and a round eye stuck on to the side, comes from the site of the Greek temple.<sup>2</sup>

4. Fig. 33, 2-3. A small horse's head was found in 1900; lid-handles

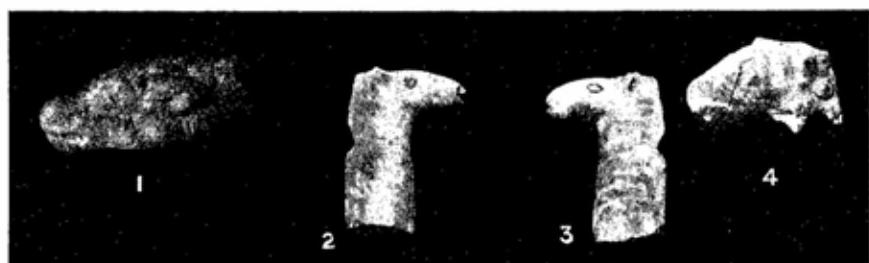


FIG. 33.

of this form are common; in Crete they have been found at Kavousi, Adhromylo and Kourtes, and there is one other example from Knossos.

'ELEUTHERNA. 1929.'

In the trial excavation carried out at Eleutherna in 1929,<sup>3</sup> only a small amount of early Greek pottery was found.

*Protogeometric.*

*Two-handled pithoi with neck.*

It has been possible to make up most of three pithoi from the fragments; they are almost exactly identical, the panels of zigzag decoration only differing in size.

Height 26 cm.; strong brick-red clay; rows of zigzags, forming

<sup>1</sup> Cf. Neugebauer, *Bronzegeräte des Altertums* (Schaal's *Bilderhefte II*), Pl. XXVI, 2. I am indebted to Mr. Payne for this suggestion. <sup>2</sup> Cf. p. 93.

<sup>3</sup> B.S.A. xxx. p. 266. J.H.S. xl ix. p. 224.

panels between the handles, and bands round the body are black, fired in places to red.

The shape, Fig. 10, does not occur among the other vases here described; the body is almost globular, growing less towards the small ring foot; two loop handles on the shoulder, above the widest part of the vase. It is a Mycenaean form.<sup>1</sup> Examples of it are found among the vases from Afrati, and at Thera<sup>2</sup> (Cretan fabric, imported), and at Knossos<sup>3</sup> and Mavro Spelio.<sup>4</sup>

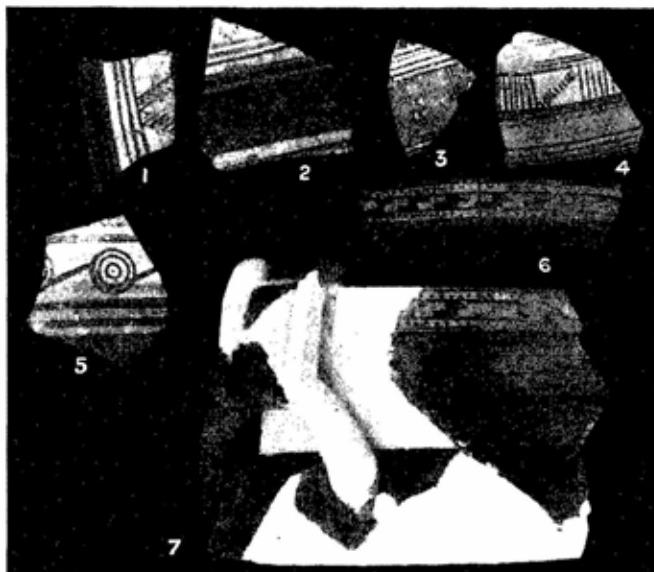


FIG. 34.

#### *Geometric.*

The geometric fragments are exceedingly poor in fabric and for the most part sketchy in decoration; many are from large vases, pithoi or amphorae, decorated with bands, zigzags and concentric circles. A few small pieces from one vase are ornamented with circles joined to one

<sup>1</sup> *B.M. Cat.* A. 970; the parts of the body are more clearly defined in A. 1023; see notes to A. 970, A. 1024.

<sup>2</sup> *Thera*, ii. p. 57. Fig. 193—very low neck and no lip; p. 61. Fig. 212; p. 177. Fig. 368.

<sup>3</sup> *B.S.A.* xxix. p. 233, Fig. 4.

<sup>4</sup> *B.S.A.* xxviii, p. 254 (Tomb IV). See above, p. 97.

another by tangents, which occur very rarely indeed in geometric fabrics other than the Theran. Fig. 34, 5.

There are many fragments of one-handled cups with offset rim, painted black inside and outside.

Fragments of two bowls were found (Figs. 34, 3, 4 and 35 (larger scale)), of reddish clay, covered with a pale yellow, almost white, slip; the paint of the geometric ornament has a high metallic lustre. The white slip and lustrous varnish might suggest a Laconian origin; but the clay is Cretan; and the metallic gleam which has been remarked as characteristic



FIG. 35.

of Laconian varnish<sup>1</sup> does occur in Crete too; the scheme of the ornament is not at all in the Laconian style. The white slip cannot, however, be compared with any other example in Crete—its occurrence on the special class of polychrome vases at Knossos and Fortezza is no parallel.

#### *Early orientalising.*

Fig. 10, bottom right. Fragment of an oenochoe; height 16 cm.; greyish clay, not very smooth; black, rather lustrous paint. In friezes round the neck, geometric motives; above the lowest bands, a bird and a bee; on the shoulder, geometric motives, part of another bee near the break, and a floral motive.

The bee is a common ornament in early Cretan vase painting; it is found at Praesos,<sup>2</sup> Knossos<sup>3</sup> and Fortezza, on a sherd from the Palace at Knossos, at Afrati,<sup>4</sup> on a bronze mitra from Axos; these are of different periods and varied stylisation.

<sup>1</sup> See Tod and Wace, *Sparta Museum Catalogue*, p. 223; *Artemis Orthia* (Droop), p. 56, and p. 66, note 16.

<sup>2</sup> *B.S.A.* xii. pp. 29–30.

<sup>3</sup> *B.S.A.* xxix. Pl. XXIII. 2 and p. 293, Fig. 39.

<sup>4</sup> *Liverpool Annals*, 1925, Pl. VI. a.

The bird was painted again on the other side of the neck—only its tail is left; both were drawn upside down; the painter cannot have made them stand upside down, clinging to the upper line, because it was easier to do so—this is a biggish vase and would be most easily painted standing firmly on its base, not resting on the rim—but for some reason which we cannot explain. The only orientalising pattern on the fragment is the floral on the shoulder; it is the ‘sacred tree’ ornament, which became common in Crete.<sup>1</sup>

The pottery from Eleutherna, although the quantity is so small that a judgment based on it may be erroneous, suggests that in this art



FIG. 36.

Eleutherna was backward in the early Greek period; the pottery will not bear comparison with that of Knossos and the neighbourhood.

#### *Corinthian fragments.*

Fig. 36. A few Corinthian fragments were found—pieces of a cothon, and of a plate rim decorated with rays (Fig. 36, left), the upper part of an aryballos and three fragments of a kotyle; the aryballos fragment is unpainted, the kotyle fragments are painted with a very feeble goat’s head and swan. (Fig. 36, middle and right).

#### *Laconian krater.*

Fig. 34, 6, 7. Several large pieces of the body, and a few pieces of the neck and handle, of a Laconian krater were found; it has been possible to make up the upper part of one side; the restoration of the handle is certain. Diameter of the mouth, about 32 cm.; red clay, white slip; neck and body covered with black paint; the decoration is in white paint.

<sup>1</sup> Knossos, *B.S.A.* xxix. p. 249, Fig. 14, p. 278, Fig. 34 (35, 36, 38). Cf. also Johansen, *Les Vases Sicyoniens*, p. 59, Fig. 36 and Pl. V. 6.

This is, I think, the only Laconian vase found in Crete. It is identical with one of a series in the Louvre (687<sup>1</sup>), but the tongues are more carefully painted. There are seven Laconian kraters in the Castellani Collection of the Villa Giulia, and one from Falerii, also in the Villa Giulia; fragments of about half a dozen have been found in Greece—at Aegina, at Perachora (1930), at Tiryns, and at Sparta.

The Louvre series was formerly thought to be Ionian,<sup>2</sup> but has now for some time been recognised as Laconian.<sup>3</sup> They and the Castellani examples vary in height from about 20 to 40, in diameter from about 18 to 25 cm. There are slight variations in the types of handles, and difference in technique; for a few have no slip; the same difference is found in the fragments that have come to light in Greece.

The Laconian krater with broad arched handle-plates is in essentials the same as the Chalcidian; there are, too, a few Corinthian examples of it. It has been shewn to be neither the descendant of the Corinthian column-krater, nor the parent of the volute-krater<sup>4</sup>; the volute-krater owes its tall volute handles to the influence of metal types; the Corinthian column-krater is adapted from the geometric krater with loop-handles joined to the rim by a curved band; it was this same geometric form which was revived and became the later 'Chalcidian' type.

The Chalcidian industry flourished between 550 and 510 B.C.; the krater in the British Museum<sup>5</sup> is early in the series; the Corinthian industry ended, as far as considerable pieces are concerned, about 560 or 550. A comparison of the Chalcidian, Laconian and Corinthian kraters shews that the Chalcidian are the most slender, and the most subtle in contour; the neck narrows slightly towards the bottom. The Corinthian examples are rather broader and fuller<sup>6</sup>; all belong to the late period of the Corinthian style. The Laconian kraters all have a small foot; they shew considerable variations of form and proportion and may cover a comparatively long period; *C.V.A. Louvre*, III Dc Pl. I. 3 and Pl. II. 3-4 are markedly different from Pl. I. 1, 7, Pl. II. 7, and can hardly be contemporary with them; some are, in proportions, like the earliest of the Corinthian series, others are almost as elegant as the Chalcidian examples.

<sup>1</sup> *C.V.A. Louvre*, III. D.c. Pl. II, no. 7.

<sup>2</sup> Pottier, *Cat. des Vases Antiques du Louvre*, p. 532.

<sup>3</sup> *C.V.A. Louvre*, III. D.c. p. 3. Cf. *op. cit.* p. 5 and *J.H.S.* xxx. pp. 1 ff. (Droop).

<sup>4</sup> Rumpf, *Chalkidische Vasen*, p. 122.

<sup>5</sup> B. 15. Rumpf, No. 113, Pl. 126-127.

<sup>6</sup> Cf. Payne, *Necrocorinthia*, p. 330.

The angle at which the handles are set on the shoulder varies a little; in some instances there is a near approach to the Chalcidian manner. Probably none of the Laconian kraters is earlier than the middle of the sixth century; thus they will follow closely on the Corinthian examples, which are not later than 560 or 550, and they may go on for some considerable time.<sup>1</sup>

In 1925 a piece from the rim of a krater, similar to the pieces from Eleutherna, was found at Sparta; the only other fragment discovered there is published in *B.S.A.* xxviii. p. 71, Fig. 13b; on the neck wild bristly men are walking through a palm wood, and on the shoulder, below the red and black tongues, there was another frieze of which only a fragment is left. This fragment is certainly from a krater—whether of the ordinary shape, or with volute handles, it is of course impossible to say.

The Louvre possesses another Laconian krater, No. 661,<sup>2</sup> decorated with a frieze of animals and fine ornaments. It has volute-handles and a bell-shaped foot with a rather elaborate curve; both features clearly shew the influence of a metal type; the form at once suggests comparison with the bronze volute-krater from Trebenischte<sup>3</sup> and the bronze krater in Munich.<sup>4</sup> On grounds of style and chiefly on grounds of technique, the Louvre krater has been attributed to the first quarter of the sixth century<sup>5</sup>; it is certainly not as early as this. First, the 'careful elaboration of the patterns' is not enough to lead us to attribute the vase to an early date. Some early Laconian patterns are scarcely to be distinguished from later; compare, for examples, the patterns of *B.S.A.* xv. p. 29, Fig. 5 and Pl. III with the later patterns of the Arcesilas cup, the Naukratis cup, the Louvre banquet cup, and the fine patterns which are very conspicuous in the Laconian orientalising and black-figure styles. The patterns of the Louvre krater have close parallels in those of two other Laconian vases, which, like it, are influenced by metal types—the squat oinochoe, *B.S.A.* xxviii. Pl. VII, and the hydria, Pfuhl, *Mal. u. Zeichn.* III. Fig. 198. Secondly, with regard to the style of the drawing, the floral- and animal-frieze style flourished at Sparta side by side with the

<sup>1</sup> See also Payne, *Necrocorinthia*, p. 330, note 1, and Rumpf, *Chalkidische Vasen*, p. 123, for examples in other fabrics.

<sup>2</sup> *C.V.A. Louvre*, III D.c. Pl. VI. 1-2; p. 5.

<sup>3</sup> Filow, *Die archaische Necropole von Trebenischte*, Pl. VII, and Fig. 36.

<sup>4</sup> Sieveking, *Antike Metallgeräte*, Pls. II, III. Bibliography, *Röm. Mitt.* 1923-1924, p. 383 (Neugebauer). Cf. also *Necrocorinthia*, p. 218, note 2, where a new fragment is added.

<sup>5</sup> *J.H.S.* xxx. p. 8 (Droop); *B.S.A.* xxix. p. 111 (E. Tankard).

figure style in the sixth century, and the lack of figure-pictures on the Louvre krater is not in itself an indication of an early date; the drawing is about as advanced as that in the scenes of the Louvre banquet-cup<sup>1</sup> and contemporary pieces; and the filling ornament already prepares the way for the palmette which is found on the later cups. The date of the krater should be brought down to the middle of the century.<sup>2</sup>

M. HARTLEY.

*Postscript*

Since this article was written, the publication of the finds from Afrati has appeared (*Annuario, X-XII*). I have unfortunately not been able to use in this paper the evidence which Dr. Levi's excavations afford, but I hope to be able later to consider the chronology of Cretan pottery more exactly, using the evidence from Afrati.

I much regret that I have not been able to make use of Dr. Kunze's recently published book on Cretan bronzes.

M. H.

<sup>1</sup> Cf., for example, the sphinxes on the krater with the right-hand sphinx on the outside of the cup (*C.V.A. Louvre*, III Dc Pl. V. 2).

<sup>2</sup> On the chronology of the figure-style pieces, the Arcesilas cup and others, see *F.R.* III. p. 211 (Buschor).

## ΕΩΘΙΝΑ ΑΝΑΣΤΑΣΙΜΑ

### THE MORNING HYMNS OF THE EMPEROR LEO

#### PART II

##### CONFERENCE ON BYZANTINE MUSIC.

By invitation of the Rask-Oersted Foundation a conference was held at Copenhagen in July 1931. Plans for the study and publication of Byzantine hymns with music were put forward; and a resolution was passed recommending a uniform method for the transcription of Byzantine melodies. This was as follows:

' 1. Agreement has been reached with regard to the values of the Byzantine interval-signs in the Middle (Round) and Late (Cucuzelian) systems.

' 2. Byzantine musical handbooks afford some indication of the dynamic effect of certain signs. These signs affect the length of the notes, the stress or the rhythm. They are consistently represented in our transcriptions according to the following table, a plain note being taken as a quaver:—

Oxeia		Petaste		Duo Kentemata		
Pelaston		Kuphisma		Duo Apostrophoi	Syndesmoi	
(or Double Apostrophus)				Diple		
Aporrhoe		Kratemohyporrhooon		Hyporrhoe or		
		Klasma or Tzakisma		Bareia		
Apoderma		Gorgon	<i>accelerando</i> ;	Argon	<i>ritardando</i> .	
		only apply to the group of notes over which they stand, and no <i>a tempo</i>				
		is needed after them.	Xeron Klasma		Piasma	
		Separation-mark for the end of a colon (versicle)				

'3. Table of Mediaeval Byzantine Modes.<sup>1</sup>

Mode.	Starting note of the interval-signs of the melody.	Finalis.
I.	a (rarely d)	a or d
II.	b (h) or g	e or b (h)
III.	c' or a	f or c'
IV.	d' or g	g or d'
Plagal I.	d or g (rarely e)	d (rarely a)
II.	e or g (rarely a)	e
III. (Barys)	f or a	f (rarely b-flat)
IV.	g, a or c'	g (rarely c')

'This scheme is based on (1) the comparative study of the Byzantine and other Eastern and Western systems of Church Music; (2) the traces of the mediaeval modal system surviving in the modern or Chrysanthine system of Greek Church Music; (3) the practical rules evolved in the course of transcription.

'(4) We may reasonably assume that in some Byzantine melodies, particularly those of Oriental origin, chromatic or enharmonic mutations may have occurred. The Manuscripts give, as a rule, no indication of such practices, and we should accordingly, in the line of our musical text, disregard them. But, where the transcriber considers any chromatic alteration probable, this may be marked by an accidental above the staff. Fuller study of the Byzantine musical theorists will, it is hoped, clear up the remaining uncertainties on this point.'

Signed : CARSTEN HOEG, Copenhagen.

H. J. W. TILLYARD, Cardiff.

EGON WELLESZ, Vienna.

Effect will be given to this resolution in the musical versions in the following sections of this article. Part I was already in print when the Conference met. But it will be observed that the differences in the methods of transcription do not affect the course of the tunes, nor the tonality and only very slightly the rhythm. They do not invalidate any of my versions later than 1914. The main changes will be (1) certain *ad libitum* ornaments are discarded; (2) the bars, hitherto inserted as

<sup>1</sup> For details see *B.S.A.* xxvi, p. 78, and *Byz. Zeit.* 1931, p. 16.

aids to the singer, are no longer used. In the opinion of the Conference, the music-loving public is by now familiar enough with unbarred vocal music.

The following section is a supplement to the rules of transcription given above.<sup>1</sup>

#### SOME RARER GROUPS OF INTERVAL-SIGNS.

(*The references in this section are to Fig. 2.*)

**Pneuma without Soma.** This is only found where the Pneuma is supported by a Subsidiary (Hypostasis) that was a Soma (and *ergo* an interval-sign) in the Coislin system.

**Bareia.**—Usually with Kentema over Elaphron, (1a) making a group like (a) c'a. (On the analogy of other groups, like 1b and 1c in our diagram, and because of the direction, we must read the Kentema before the Elaphron.) Also we find Elaphron over Elaphron with Bareia = (a) f d (2a). The Bareia, besides indicating a secondary accent, also serves to separate the signs, as in 2b, Elaphron over Apostrophus, with Bareia = (a) fe.

**Diple.**—This may stand under the Elaphron, with no other sign, giving a descending third, with prolongation, e.g. (a) f- (No. 3 in Fig. 2).

**Kratema.**—Usually with Kentema, (a) c'- (prolonged and accented note: 4a). Also, though seldom, with Hypsele (4b) giving an ascending fifth, accented and prolonged.

**Seisma.**—In this group the Hyporrhoe loses its interval-value. A tremolo or some kind of turn may be intended. Example Cod. Cantab. Trin. 256, f. 296 b.

a - ba -

$\mu\epsilon -- \epsilon\tau -- \eta\rho\mu\epsilon\nu\sigma$  (Fig. 2, No. 5).

**Compound Somata in Same Direction.** (a) Pairs like Oxeia over Petaste, 6a), Oxeia over Oligon (6b), or Oligon over Petaste (6c), are

<sup>1</sup> Besides the acknowledgments made on p. 92 of last year's *Annual*, I wish again to say what valuable help was received from the University of Birmingham in 1923-4, while I was preparing this article. By a generous vote from the Research Fund, a full supply of photographic materials was provided; and the Departments of Physics and Geology most kindly allowed me the use of their dark-rooms. The greater part of my results still awaits publication. I also have pleasure in again thanking the Governors of the Hort Fund for their timely award of a grant in aid of my voyage to Patmos in 1929.

RECENT ARTICLES: *Speculum*, Jan. 1932, p. 3, on St. Romanus, by M. Carpenter. See also *Byz. Zeitschr.* xxxii. (1932), 172.

added together, the dynamic effect of both members being kept. All these have the value equal to a-c'. (This usage survives in the Chrysanthine system.) *Reason*: if two steps are needed, we either use

- 1 a.  b.  c. 
- 2 a.  b. 
- 3 
- 4 a.  b. 
- 5    HP-
- 6 a.  b.  c. 
- 7 a.  b. 
- 8 a.  b. 
- 9  CH-  ME-  PON
- 10 
- 11 a.  b.  c. 
- 12  
- 13  
- 14 
- 15   
- 16   
- 17 a.  b. 
- 18 a.  b. 

FIG. 2.

the Duo Kentemata or else a formula like Oligon with Diple, Oxeia (*7a*), or Oligon with Diple, Petaste (*7b*), which are frequent.

(b) Two Apostrophi superposed (*8a* and *8b*). These make two descending seconds, like (a) gf. *Reason*: the Hyporrhoe cannot be used as the first or only sign over a syllable; so that there is no other way of expressing a phrase like

a      g f      f  
 $\sigma\eta - \mu\epsilon -- \rho\nu.$  (9)

For a leap of a third the groups Apostrophus-Elaphron (10) and Elaphron over Diple (3 above) are available.

**Large Intervals.** Kentema over Oligon, Hypsele make a seventh upwards (11a); Hypsele over Kentema over Oligon (11b) makes an octave upwards. Chamele over Apostrophus (11c) makes a sixth downwards. In hymns these are the biggest intervals in regular use. (Instead of the Oligon we may, of course, use Oxeia or Petaste in these groups with the same interval-value.)

**Order of Intervals.** Sometimes the signs forming a conventional group are crowded together for lack of space, or piled up carelessly one over the other. The following seem the likeliest arrangements:—

Kylisma (12). This ornament is mostly found at middle cadences and consists of an Ison, two Oxeiai, Apostrophus, Petaste, beneath these the Subsidiary sign Kylisma, and below all an Elaphron: the Gorgon (accelerando) is often added. The form given in the diagram is usual in the earlier MSS. of the Round Notation; but the order is not always the same. Cod. Cantab. Trin. 256 puts the Petaste much further to the right, which shows that the Petaste was to be sung last, after the Elaphron; for example—e-f g f d e. Cryptensis E.A. II (with few other MSS.) places the Apostrophus between the first and second Oxeia. Instead of the Petaste, it gives an Oligon, which overlaps the end of the Subsidiary sign. In Vatopedi 288 (the best-written MS. of this class that I have ever seen) the Petaste very slightly overlaps the Kylisma, and, in the Study of Cucuzeles,<sup>1</sup> hardly at all; but in Cod. Atheniensis 883<sup>2</sup> it is almost clear of the Kylisma. Prof. Wellesz remarks that the figure e- f e f d e (which Crypt. suggests) would be more in agreement with similar ornaments in Armenian and Gregorian music than any other possible rendering; but, as the Trinity MS. is perfectly clear, we must at any rate allow the two forms already mentioned. The third possibility, e- f g f g e—taking the Elaphron last—is (although at first sight the most obvious in MSS. like Vatopedi 288) so much less satisfactory on the musical side that we should be quite ready to rule it out.

<sup>1</sup> Fleischer, O., *Neumenstudien*, T. 3, Facs. 28.

<sup>2</sup> Facs. in *Byz. Zeitschr.* XX, 441. This is my only example from this MS. I have at least four from Vatopedi and an ample number from the other two MSS. cited above.

The same argument applies to the rare form 13, where Duo Kentemata are added to the Petaste.

*Xeron Klasma*.—This is frequent in groups like 14, e.g. bc'c'b—where a mezzo-staccato effect is evidently implied.

*Thematismus Eso*.—This is an ornamental group, found in two forms : 15, like (a-)b-c-e'd'c'-; or 16, (a-)b-c'-f'e'd'-.

**Groups Usual over Certain Notes.** The combinations of Apostrophus, Elaphron and Duo Kentemata (17a and 17b) are found in the majority of cases to give the notes e f. This is often a useful check on our transcriptions. The group 14, or other combination giving a value like bc'c'b, is usually found either over these actual notes or over e f f e. The leaps of a fifth downwards and upwards (18a and 18b) usually go from d to a or vice versa, except in Mode IV, where the leap is mostly c-g or the reverse. (There is nothing to forbid the use of any of these groups in other parts of the scale; but usage shews that they tended to cling to certain fixed notes—a fact of which the interpreter may make good use.)

#### TRANSLATION OF HYMNS VI--XI.

6. Thou, Christ, being the true Peace of God unto men, in granting Thy peace to the disciples after the Resurrection, didst terrify them who thought that they saw a spirit. But Thou dispelledst their confusion by shewing Thy hands and Thy feet; and while they still doubted, Thou, by partaking of food and reminder of Thy teaching, didst open their minds to understand the Scriptures. To them Thou promisedst the Comforter from the Father, and after blessing them departedst to heaven. Therefore with them we adore Thee. O Lord, to Thee be glory !

7. Behold, darkness and early morn. And why, Mary, standest thou by the sepulchre with much darkness in thy heart? Is it because thou seekest where Jesus is lain? But see the disciples assembling; how they, by the shroud and cloth, were convinced of the Resurrection, and were reminded of the Scriptures which speak thereof. With them, and through them, we also have believed; and we praise Thee, the Life-giver, Christ.

8. The burning tears of Mary fell not in vain. For, lo! she hath been found worthy of angels' teaching and of a vision of Jesus Himself. But still, like a weak woman, she thinketh the things of earth, wherefore she is warned not to touch Thee, O Christ. Howbeit she was sent as messenger to Thy disciples. To them she brought good tidings, announcing Thy ascension to Thy Father's abode. With her, do Thou deem us also worthy of Thy presence, O Lord our Master!

9. At the end of the time, when it was evening on the Sabbath, Thou

didst appear unto Thy friends, O Christ, and didst confirm a miracle by a miracle, to wit Thy Resurrection by Thy entrance at a closed door. Nay more, Thou filledst the hearts of Thy disciples with joy and madest them sharers in the Holy Spirit, giving them power to forgive sin. Nor didst Thou leave Thomas to sink in the waves of unbelief. Therefore grant also unto us true knowledge and remission of sins, O compassionate Lord.

10. After Thy descent into Hell and resurrection from the Dead, the disciples, as it seemeth, were downcast at parting from Thee, and turned to work. Boats and nets once more—but nowhere a catch. But Thou, Saviour, appearing as Lord of all, badest them cast their nets on the right hand. Straightway the word became a deed, and there was a great multitude of fishes, and a wondrous supper ready upon the land. Of this Thy disciples then partook. Grant us now, in the spirit, to feast with Thee, O Lord and Friend of man!

11. Revealing Thyself unto Thy disciples, O Saviour, after Thy Resurrection, Thou gavest unto Simon the feeding of Thy sheep, for the winning of love in exchange for love, demanding his care as a shepherd. Wherefore Thou saidst: If thou lovest me, Peter, feed my lambs, feed my sheep; and he, straightway showing his love, asked about the other disciple. By their intercessions, O Christ, guard Thy flock from the wolves that harm it!

## MUSICAL VERSIONS OF HYMNS VI-XI.

Hymn VI, Cod. Trin. 256, f. 297b-298.

(Byzantine Notation, Pl. XVI, in B.S.A. xxx.)

Mode II, Plagal, from a, Finalis e.

(1) Ἡ ὄν - τως εἰ - πή - η σύ, Χριστός - τέ - - (2) πρὸς - - ἀν -  
θρώ - - τρος Θε - - οὐ - - εἰ - πή - νην τὴν  
σὴν δι - δοὺς (3) με - τὰ τὴν ἐ - - γερ - - σιν - -  
μα - θη - ταις (4) ἐμ - φό - βους ἐ - δειξ - ας αὐ - τοὺς - - δέξ - - αν - τας





6. Trinity. The Intonation is corrupt here, but right in Athen., the notes being

e f g a - a

νε - α - νες --

Line 2. σην. There is a flaw in the paper above the Oxeia.

b a e f

4. Trin.<sup>2</sup> εμ - φο - βους

g - a - c'g a

5 fin. Trin.<sup>2</sup> των - - -

6. -ξας. In this group, called Seisma, the Hyporrhoe is annulled by the Piasma.

7. -τονν-. Trin. seems to have omitted an Apostrophus, which Athen. preserves. This we have supplied, giving the first g in the group. Although the two MSS. differ slightly here, yet the general likeness is enough to justify our emendation.

8 fin. -να-. Trin. seems to have omitted an Oxeia over the Petaste which we restore from Athen. It will be seen that this error in Trin. happens to correct the last one; but, as above, the general likeness of the passages induces us to bring them into line.

9 fin. Medial signature gives the notes e f g a, the same Intonation with which the hymn began.

11. *-τοὺς*. Confusion has been caused by the addition of a signature, again giving e f g a, written beside and under the original neumes. The latter are correct and agree with Athen.

*-στῆς*. We should probably read an Oligon for the Ison (so Athen.), but the florid passage may be corrupt. Atheniensis is right, but disagrees with Trin. in several details.

f g

*ad fin.* Trin.<sup>2</sup> *-νον* followed by descending fourth: this confirms the reading.

12. *-μν*. We should probably omit one Apostrophus and thus bring our text into general agreement with Athen. The signature at the end of the line refers to the following note b, which Athen. also gives.

13. *-ε-*. Seisma: the Hyporrhoe is annulled.

Chief variants in Athen.<sup>1</sup>

e	e	f - g - b a g -		
2. <i>-ποὺς</i>	$\Theta\epsilon$	<i>-ον</i>	-----	
a	g f	g	a	
4. $\epsilon\mu-$	$\phi\alpha$	<i>-βοὺς</i>	$\epsilon-$	
	c' g			
5. $\alpha\lambda-$				
	g g f g - a	g e f	e - d e f	e - f e
6. <i>-τας</i>	---	$\chi\epsilon\iota$	<i>- - pas</i>	— <i>σον</i>
	a - b - d'	c'	b a g	
10. - $\lambda\iota$	-	<i>av</i>	$\kappa\alpha\theta-$	
	a - a	a - g f g f g f -	g a b	e f
II. $\delta\iota$	-	$\epsilon - - - -$	<i>στῆς</i>	<i>-νον</i>

Without the aid of the Athenian MS. it would hardly have been possible to decipher the Trinity text; but as the former is correct throughout, we are on firm ground, in spite of all difficulties. Where a MS. has variants and medial signatures added by a later hand, using different ink, we ought to make sure of these in the original and not trust to photographs alone. Hence the value of a MS. easily accessible in the library of Trinity College. I have noted some variants in Sinait. 1244, but, to save space, I will only give the cadence and also that in Cod. Ambros. Elsewhere the differences are not serious.

Sinait. 1244.

b - a - bc' - b a g f g - a - b - c b a - b a g a - b a g

13. *Kv - pu - - - - - ε - - - - δo - - - -*

*f e e - f g f g g - g g*

*ξa οοι - - - - - (falso).*

Ambros. *ibid.*

b a - b c' - b a b - a g f g - a - c' b (seisma)

13. *Kv - pu - - - - - ε - - - -*

*b b a g a - b g e g f - g a g a - g a b*

*δo - - - - ξa - - οοι - - - - -*

This mode may end on b-flat, though it rarely does so. But in Sinaiticus my copy is probably wrong in the last line, unless the MS. is corrupt. The Intonation in Sinait. is

e - f g f d f e f g a -  
νε ε - α α - νε ε ες -

#### A SETTING IN THE LINEAR SYSTEM.

The Sinai MS. 1242 gives the Resurrection Hymns in the earlier or Coislin neumes. The notation is the same as in Wellesz' two examples 9 and 10.<sup>1</sup> Most writers now seem to agree that the Linear systems only gave a vague indication of the melody,<sup>2</sup> having not yet attained to the measured intervals of the Round Notation. A trial version made from a photograph from this Sinai MS. supports this view; for, while the general likeness to the musical text of Cod. Atheniensis is obvious, we cannot as a rule fix the separate progressions with certainty in the older setting. Nor can we properly call the older neumes 'stenographic,' as Thibaut is inclined to do; for this would imply a consistent method of abbreviation. But it is very likely that some latitude of rendering was allowed—which may partly account for the occasional variety in the versions extant in the Round system. The Sinai MS. 1244 (Round Notation) has a more elaborate setting than Athen. 974 and less like Sinai 1242.

<sup>1</sup> *Op. cit.*, pp. 89, 90.

<sup>2</sup> E.g. Thibaut and Wellesz. The same conclusion was independently reached in my article, *J.H.S.* xli. 29. Gastoué hardly formed a definite opinion, while Riemann's views, though ingenious, have probably no defenders.

Hymn VII, Cod. Trin. 256, f. 298.

(Byzantine Notation, Pl. XVI, B.S.A. xxx.)

Mode III, Plagal (Barys), from f, Finalis f.

(1) Ἰ - δοὺ σκο - τί - a καὶ πρω̄ ὶ (2) καὶ τί πρὸς τὸ μνη̄ - με̄ -  
ον, Ma - pī - a ἔσ - τη - κας (3) πο - λὺ σκό - τος ἔ - χον - σα  
ταῖς φρε - σίν; (4) ὑφ' - - - - οῦ - - - - ποῦ τέ - - θει -  
ται ζη - τεῖς ὁ Ἰ - η - σοῦς (5) ἀλλ' ὁ - - pa τοὺς συν - τρέ - χον -  
ταῖς μα - θη - ταῖς (6) πῶς τοῖς ὁ - θο - νί - - ois - - -  
καὶ τῷ σου - δα - pī - ω - - - - (7) τὴν ἀ - νά - στα -  
σιν ἐ - τεκ - μή - ραν - το (8) καὶ ἀν - ε - μνήσ - θη - σαν  
τῆς πε - ρὶ τού - του γρα - φῆς (9) μεθ' - - - - ὕν - - - -



B. M. Cod. Harl. 5544, f. 123b. (Cucuzelian Notation.)

Mode III, Plagal (Grave), from f.

(1) Ἡ - δοὺ σκο - τι - α καὶ πρω - ι (2) καὶ τι πρὸς (3) πολὺ  
 σκό — — τος ι - (4) - ποῦ τέ - - θει - ται  
 ζη - τεῦς ὁ Ἡ - η - σοῦς. (9) - πιστεύ - σαν - τες - - -  
 ἀν - νυ - νοῦ - - μέν σε τὸν ζω - ο - δό - - την  
 Χριστόν - - -

7. The Athens and Cambridge MSS. agree almost entirely until the last line, where we see signs of confusion. I have found the following variants:—

Athen. <sup>1</sup>	$\sigma\epsilon$	$\tau\omega$	$\zeta\omega$	$\delta\omega$	$\tau\eta\nu$	$X\rho i s t o v$
	g - g	d' f' c'	d' - c'	b b		

	g b c'	d' = Athen. <sup>1</sup>
Athen. <sup>2</sup>	σε τον ζω - ο - δο - την Xρισ-τον	
	g g a b d' - c' b b	
Trin.	σε τον ζω - ο - δο - την Xρισ-τον	
	g - c'	
B.M.	σε τον = Athen. <sup>1</sup>	
Ambros.		
	g g a b d' c b bagab-babc'	
	σε τον ζω - ο - δο - την Xρισ-τον - - - - -	
B.M. Harl. 5544, see above.		

Now can we accept the ending on b-flat as given by Trin., just as in Mode IV, Plagal, we find a cadence on c' in one of Casia's hymns?<sup>1</sup>

I know of no certain example<sup>2</sup> in this mode of such a cadence. For example, in the Hirmologus at Grottaferrata<sup>3</sup> I have found at least forty odes in the Grave Mode, all ending on f. The usual formula is c' g a g f f, which answers to Athen.<sup>1</sup> here, only the latter is a fourth too high. It would indeed be easy to emend the passage, if this were the only version. But when we find five or six forms all different and all ending on b-flat, it is hard to treat the matter as purely accidental. Perhaps we may admit that in a long hymn, where the tonality had been fully established, a variation of the final cadence might have been allowed. The Ambrosian MS. is possibly at fault and cannot outweigh the others, although a cadence on the Finalis of the authentic mode is not unknown in the First Plagal.<sup>4</sup>

Chief other variants in Athen. :—

bc	b g
3. ε - χον-	
a b c	g a
5. τονς συν - τρε -	
g e	f - g e f g
6. - θο - νι - οις	
g f	
7. - στα	

<sup>1</sup> *Byz. Zeitschr.* XX, 463.

<sup>2</sup> A late Polychronism in this mode in *B.S.A.* xviii, 258 seems to end on b-flat; but the reading is not altogether clear.

<sup>3</sup> *B.S.A.* xxvi (1923-5), 84.

<sup>4</sup> *Ibid.*, l.c. 83.

## LATE VERSIONS.

The latter half of the seventeenth century saw a revival of Byzantine hymnody, which had languished after the Fall of Constantinople. The leaders seem to have been Balasius<sup>1</sup> and Bishop Germanus of New Patrae<sup>2</sup>; and their disciples were probably the founders of the Phanariote school of Church music in the eighteenth century, which reached its highest fame in the time of Peter Bereketes.<sup>3</sup> Tradition has thrown a cloak of mystery about their work; but we may believe that they were active both in composing new tunes, according to the semi-Oriental taste of their age, and in studying the legacy of the mediaeval hymnwrights. The output of musical manuscripts, which had been meagre in the sixteenth century, greatly increased, until every monastery in the Levant was richly supplied. We do not know whether the musical notation was generally understood. Probably it was the secret of a few men at Constantinople; while the average singer read the words, and, guessing at the general drift of the neumes, made up what he could not remember of the tune.<sup>4</sup> It is not unlikely that even experts took liberties with the older texts and embellished them, *ex tempore* or otherwise, according to their own fancy. At any rate we find in the period 1680–1780 two fairly distinct types of music-writing. The one is simple and in the line of the old tradition, the additions being mainly red subsidiary signs or Hypostases. The other is highly ornate, using chromatic effects and meaningless vocalisations. Both styles found their way into the reformed hymnody of Chrysanthus<sup>5</sup> in the nineteenth century.

The hymns of Leo were popular in the later ages and frequently set to music. I have seen three complete sets in manuscripts. The British Museum Codex Harl. 5544 is a very neat paper 8vo; the words and interval-signs are in black with the subsidiaries in red. It was probably written in the seventeenth century; but the musical text shows a close likeness to the older manuscripts. I have shown the most striking differences in Hymn 7 in staff notation. But even these are unimportant, except in line 4, where a dramatic effect is sought, and

<sup>1</sup> Papadopoulos, *Συμβολαι εἰς τὴν ἱστορίαν τῆς . . . ἐκκλ. Μοισικῆς* (Athens, 1890), 303. Psachos, *Παρασημαντικὴ τῆς Βυζαντινῆς Μουσικῆς*, 34.

<sup>2</sup> Papadopoulos, *ibid.*

<sup>3</sup> *Ibid.* 311.

<sup>4</sup> Fleischer, O., *Neumenstudien*, T. 3, 5–7. Much remains obscure in the musical history of the eighteenth century in the Levant.

<sup>5</sup> The florid settings are called “slow,” *ἀργά*, the simple “concise,” *σύντομα*. The former correspond to the “embellished” or *καλόφωνα* of the eighteenth century.

in the florid ending, which surpasses the older versions. The general resemblance is far more impressive: even the ornaments in lines 4 and 9, most characteristic of the mediaeval Round system, are retained; and all the medial cadences agree. Evidently between the early fourteenth century and the time of this MS. there was an unbroken tradition somewhere.

The setting in Codex Moreatae<sup>1</sup> (eighteenth century) agrees almost note for note with Cod. B.M. Ad. 17718, f. 32 (of the same date), and represents a simplification of the melody. The compass is reduced; and, in spite of a more tuneful flow, there is a certain sameness about it. It is inconceivable that anyone should have recomposed the hymn in this way if the notation had lapsed into oblivion. Here is no array of subsidiary signs to help the improviser. He must sing the neumes or nothing.

If we examine a modern setting in the Chrysanthine notation<sup>2</sup> we find it to be an independent work, shewing little likeness either to the eighteenth-century version or to the older. Florid passages occur over different syllables; and chromatic changes, of which the MSS. give no hint, are freely introduced. This seems to prove that the modern composer neither remembered the mediaeval tune nor copied it, even roughly, from any MS. resembling ours. We now add the eighteenth-century version of this hymn. In the Cucuzelian notation the Gorgon seems to divide the unit of beat into two semiquavers, or, if found with the Klasma,

<sup>1</sup> I bought this MS. at Athens in 1912 and named it after its former owner. It is a small incomplete *Anthologium*, containing the Kekragaria and some of the Stichera Anastasima.

<sup>2</sup> Nicolas Georgiou, *Anastasimatarion* (Smyrna, 1899), 370. Modern versions of two of the Morning Hymns of Leo, taken down from the mouth of an Athonite monk, are given by E. Adaiewsky, *Rivista Musicale*, VIII (Turin, 1901), 43 and 579. This article (in French) contains Hymns 3 and 10 in European notation.

The Slavonic form of this hymn, printed in the hammer-headed notation on five lines, may be found in the Russian Octoechus (*Oktoikh Notnago Peniya*, Moscow, 1889). This system was borrowed from Western Europe in the seventeenth century and soon displaced the hooked notation (called Kryuki), which only the Old Believers continued to use. For details of the Russian neumes see O. von Riesemann, *Die Notationen d. alt-russ. Kirchengesanges* (Leipzig, 1909). The Russian version seems to be independent of any of the Greek settings.

A. Preobrazhensky, the chief modern Russian authority, writing in a Russian journal, *De Musica* (St. Petersburg, 1926), p. 60, admits that the Russian neumes of the twelfth century (the Early Sematic notation) were borrowed from the Byzantine (Coislin) system. Little information about the Russian neumes can be gleaned from the more ambitious publication of Findeisen, N., *Ocherki po Istorii Muzyki v Rossii* (Moscow, 1928).

(I am indebted to the kindness of Mr. S. W. Pring, of Glasgow, for copies of these Russian articles.)

to make a dotted quaver followed by a semiquaver, exactly as in the modern system. The Little Ison (unless followed by a big Ison) is represented by a grace-note.

Cod. Moreatae. (Cucuzelian Notation.) Mode III, Plagal (Barys).

(1) Ι - δοὺ σκο - τί - α καὶ πρω - ί, (2) καὶ τί πρὸς τὸ μνη - μεῖ -  
ον Μα - ρι - α ἔσ - τη - κας (βαρ.) (3) πο - λὺ σκό - τος ἵ - χον -  
σα ταις φρε - - σίν (4) ὑφ' οὐ ποῦ τέ - θει - ται ζη - τεῖς  
ὅ Ι - η - σοῦς (βαρ.) (5) ἀλλ' ὅ - ρα τοὺς συν - τρέ - χον - τας μα - θη -  
τάς. (6) πῶς τοῖς ὅ - ήο - νί - οις καὶ τῷ σου - δα - ρι - - ω  
(7) τὴν ἀ - νά - στα - - σιν ἵ - τεκ - μή - ραν - το (βαρ.) (8) καὶ ἀ - νε  
μνήσ - θη - σαν τῆς πε - ρὶ τού - του γρα - φῆς (9) μεθ' ὄν  
καὶ δι' ὄν καὶ ἡ μεῖς πισ - τεύ - σαν - τεῖς (10) ἀν - υμ - νοῦ -  
μέν σε τὸν ζω - ο - δό - - την Χρισ - τόν.

Hymn VIII, Cod. Athen. 974, p. 206.

(Byzantine Notation, on opposite page.)

Mode IV, Plagal, from c', Finalis g.

*accel.*

(1) Τὰ - - τῆς - - - Ma - - pi - as - - δά - - -  
κρυ - - α οὐ μά - την - - χεῖ - - - ται θερ - μῶς

(2) ἵ - δον γάρ κατ - η - - ξι - - - ω - ται καὶ δι - δασ - κόν - των  
ἀγ - γέ - λων (3) καὶ τῆς ὅ - ψε - ως αὐ - τοῦ τοῦ Ἡ -  
η - σοῦ (4) ἀλλ' ε - τι πρόστ - - γει - α φρο - νεῖ, οἱ -  
α γυ - - νη - - - ἀσ - θε - νῆς (5) δι - δι - - καὶ ἀ - πο - πέμ - πε - ται - - μὴ προσ -  
ψαῦ - - - σαι Χριστῷ (6) ἀλλ' ὅ - μως κή - - ρυξ πέμ - πε -  
ται τοῦς - - σοῦς - - - μα - θη - ται (7) οἰς εὐ - αγ - γέ - -

8. Cod. Athen. p. 206. πλ. δ'. (1) Ta  $\overbrace{\text{τη}}^{\text{τη}} - \eta - \eta - \eta \varsigma$

$\overbrace{\text{μα}}^{\text{μα}} - \rho \iota - \alpha \varsigma$  δα - - - κρυ - - α. ου μα - τη - ην χει - ει - ει -

ται θερ - μως. (2) ι - δου γαρ κατ - - η - - ξι - - ω - ται.

και δι - δασ - κον - των αγ - γε - λων. (3) και της ο - ψε - ως

αν - του του I - η - σου. (4) αλλ ε - τι προσ - γει -

- α φρο - νει. οι - α γν - ν - ν - νη ασ - θε - ιης.

(5) δι - ι - ο - ο - ο - ο - ο. και α - πο - πεμ - πε - ται - αι

μη προσ - ψα - α - αν - σαι Χρισ - τῳ. (6) αλλ ο - μως

κη - ρυξ πεμ - πε - ται τοι - οις σοι - οι - οις μα - θη - ταις.

accel.

8. The text of Atheniensis is clear throughout. We give this hymn and the ninth and tenth hymns in print, following a method tried in an earlier article in the *Annual*. Most of the types belonged to the system of cursive shorthand invented by Prof. H. L. Callendar, who very kindly allowed them to be used for our purpose. The variants in Athen. are trifling. The Trinity MS. is confused at the beginning but has the signature of Mode IV after *δάκρυα* in line 1. From this point the music can be deciphered, and we give the chief variants.

Trin.

- |                          |                    |
|--------------------------|--------------------|
| a b a                    | b a g a b a g g    |
| 2. i i - δον             | - ξι i i - ω - ται |
| d' d' b c'               |                    |
| 3. αν - τον              |                    |
| d' b c' a g a a          |                    |
| 4. - γει - - a φρο - νει |                    |

<sup>1</sup> Cod. απαγγελλούσα

(7) οις εν - αγ - γε - λι - α φε - ε - ρου - σα. (8) τη - η -

η - η - η - η - η - ην. προς το - ον πα - τρῳ - ον. κλη - ρου

αν - ο - δο - ον απ - αγ - γε - ελ - λει σου. (9) μεθ ης

α - ξι - ι - ω - σον και η - μας . (10) της εμ - φα .

νει - ας σου δεσ - πο - τα Κυ - ν - ν - ρι - ε.

gaf a a c'ac' bbaga-b a

5. - ται - αι μη προ - σσ - ψα - αν - σαι  
g b a g a

6. - θη - ταις (Trin.<sup>2</sup> - θη)

c'-d c'- c'ac' bb ag a-b ag

7. - γε - λι - α φε - ε - ε - ρου -  
c'ac' bb ag a-b

8. - α α - γε - ε - ε -  
c' b

9. μεθ ης  
ag gg-ab c'bag-

10. - ρι - ε ε - — ε - - -

Hymn IX, Cod. Athen. 974, p. 206.

(Byzantine Notation, on opposite page.)

Mode I, Plagal, from d, Finalis d.

(1) Ὁς ἐπ' ἐσ - χά - των τῶν χρό - νων οὐ - σης ὁ - ψί -  
ας - σαβ-βά - του (2) ἐφ - λο - τα - σαι τοῖς - - φί -  
λοις Χρισ - τέ(3)καὶ θαύ μα - - τι - - - - - θαύ -  
μα βε - βαι - οῖς (4) τῷ κε - κλεισ - μέ - νῃ εἰσ - ὁ - δῷ τῶν θυ -  
μῶν - - (5) τῷν ἐκ νε - κρῶν - - - σον ἀ - νά - στα - σιν -  
(6) ἀλλ' ἔ-πληγ-σας χα - - - πᾶς - - - - τοῖς - μα - θη - - -  
τὰς - - - - (7) καὶ πνεύ - μα - τος ἄ - γύ - ον μετ - ἔ - δω -  
κας αὐ - τοῖς (8) καὶ ἐξ - ον - σί - αν ἔ - - νει μας - -  
ἀ - φέ - σε ως - ἄ - μαρ - τι - ὡν (9) καὶ τὸν Θω - μᾶν -

9. Cod. Athen. 974, p. 206.  $\hat{\eta}\chi\sigma\pi\lambda.a'$ . (I)  $\Omega\varsigma\epsilon\pi\epsilon\sigma\chi\alpha$ .

των των χρο- νων ου σης ο - ψι - - as σαβ - βα - του.

(πλ. α') (2) οὐτοις τοιοις φύ-λαις Χριστε.

(πλ. α') (3) καὶ θαυματικοῖς εἰς τὸν θαυ-

μα βε-βαι-οις. (4) τη κε-κλεισ- με-νη εισ-ο-δω των

*θυ - ρων.* (5) *την εκ νε - κρω - - ων σου α - να - στα - σιν.*

(a) (6) αλλ  $\epsilon$  - πλη - σας χα - - - ρας . . . τους μα - θη - η -

*τας . . . . .* (7) *και πνευ - (p. 207) μα - τος α - γι - ον με - ετ -*

ε - δω - κας αν - τοις . (8) και εξ - ου - σι - αν ε - ε - ε - νει -

*ει - μας α - φε - σε - ως .. α - μαρ - τι - ων.* (9) και τον

Below the musical notation, the corresponding Greek text is provided:

οὐ κατ - ἐ λι - πες (10) τῷ τῆς ἀ - πιστί -  
 ας κα - τα - βαπτί - - ζεσ - θαι - κλύ - δω - νι (II) δι -  
 δ - - - πα - ρά - σχον καὶ η - μῖν - - -  
 γνῶ - σιν ἀ - λη - θῆ (12) καὶ ἄφ - ε - σιν πταισ - μά - των  
 εῦ - σπλαγχνε - - - Κύ - ρι - ε.

## g. Cod. τῷ Θωμᾶ

9. The Athens MS. is quite clear. Line 6,  $\chi\alpha$  - and l. 10, -  $\nu\iota$ . Pasma (accent in descent). The Parakletice (slur) is used in ll. 8 and II in the usual way. The following variants are given by the second hand:—

Line 1. a - g f e

 $\chi\rho\sigma$  -

fc

 $\sigma\alpha\beta$ . ad fin.  $\pi\lambda\alpha'$  + 4th = g.

This also at end of l. 2.

3. e f d f

 $\theta\alpha\nu$  -  $\mu\alpha$  -  $\sigma\iota\varsigma$ 

4. e c g a f e d

 $\tau\eta$   $\kappa\varepsilon$  -  $\epsilon\iota\varsigma$  o  $\delta\omega$   $\tau\omega\nu$   $\theta\nu$  -

7. d f 8. e c

-  $\tau\omega\varsigma$  - καὶ  $\epsilon\xi$  - -  $\nu\epsilon\iota$  -, the Little Kylisma, which is probably only meant as a slur.

Θω - μαν ου κατ - ε - λι - πες . (10) τω της α - πισ - τι -  
 ου > κα - τα - βαπ - τι - ζεσ - θαι κλυ - δω - νι . (11) δι -  
 ο - ο - ο - ο. πα - ρα - σχου και η - η - μι - ι - ι - ιν. γνω -  
 σιν α - λη - θη - η. (12) και αφ - ε - σιν πταισ - μα - των  
 εν - σπλαγχ - νε - ε Κν - ρι - ε.

df g. e c e - g a

- ων και τω Θω - μα (sic). The next few signs in Man. II are illegible in our photograph. At -λι- we regain the original course of the melody. 11. Over -θη the Gorgosyntheton has been added, giving a summary of the ornamental group.<sup>1</sup> The last five lines of this hymn are missing in the Trinity MS., and the surviving fragment shows no important difference.

<sup>1</sup> Another example of this Subsidiary, having the same shape as here, is seen in the Easter Canon, Ode ix, l. 4. See *Laudate*, 1923 (June), p. 5, where, however, I seem to have been wrong in calling it Argosyntheton, the latter having an upward curve at the left end.

Hymn X, Cod. Athen. 974, p. 207.

(Byzantine Notation, on opposite page.)

Mode II, Plagal, from a, Finalis e.

(1) Με - τὰ τὴν εἰς Ἀι - δον κάθ - ο - δον (2) καὶ τὴν ἐκ νεκ - ρῶν  
 ἀ - νά - στα - σιν (3) ἀ - θυ - μοῦν - τες - - - ὡς εἰ - κὸς (4) ἐ -  
 πὶ τῷ χω - ρισ - μῷ - σον, Χρισ - τὲ, οἱ μα - θη - τὰ - - - - (5)  
 πρὸς ἐρ - γα - στ - - - - αν - - - - - - - - - - - - - - - - - - - - -  
 πῃ - - - σαν (6) καὶ πά - λιν πλοῖ - α καὶ δίκ - τυ - α  
 (7) καὶ ἄ - γρα - - οὐ δα - - - - - - - - - - - - - - - - - - - -  
 accel.  
 (8) ἀλ - λὰ σὺ - - σῶ - - τερ - - ἐμ - φα - νισ - θεῖς (9) ὡς  
 δεσ - πό - της πάν - των (10) δε - ξι - οῖς τὰ δίκ - τυ - α κε - λεύ - εις  
 πλ. β'

10. Cod. Athen. p. 207. πλ. β'. νε - ε - α - νες. (1) Με - τα  
την εις φ - δου καθ - ο - δον. (2) και την εκ νε - κρων α -  
να - στα - σιν. (πλ. β') (3) α - θυ - μον - ουν - τες . . ως  
ει - κος. (4) ε - πι τω χω - ρισ - μω σου Χρισ - τε οι μα -  
θη - ται - αι . . . (5) προς ερ - γα - σι - ι - α - αν . . ε - ε -  
τρα - α - πη - σαν. (6) και πα . λιν πλοι - α και δικ - τυ -  
α. (β) (7) και α - γρα . . ον - δα - μον - ον - ον . . . .  
(8) αλ - λα σν - ν σω - τε - ε - ερ εμ - φα - νισ - θεις. (9) ως  
δεσ - πο - της παν - των. (πλ. β') (10) δεξ - ι - οις τα δικ - τυ -

accel.

10. The first hand in Atheniensis, given in our printed version, is clear. The Intonation reads (probably):—

e f g a -  
νε - ε - α - νες

It seems to have been written by the second hand.

4. χω- Parakletice. 5. -σι- Kratemohyporrhoon; and again 8 συ and 14 με-.

7. -μον Kratemohyporrhoon-Oligon; and again in 12 -θυ- and 13 δεῦπ-.

ᾱ κε - λευ - εις βαλ - ειν. (11) και ην ο λο - γος ερ - γον  
 εν - θυς. (12) και πλη - θος των ιχ - θυ - ων πο - λυ.  
 (13) και - αι δειπ - νον ξε - νον ε - τοι - μον ε - ε - εν γη - η -  
 γ... (14) ου με - τα - α - σχον - - των το - τε σου των μα -  
 θη - των. (15) και η - μας νυν νο - η - τως . . . . . κατ - αξ -  
 ι - ω - σου εν - τρυ - φη - - σαι. (16) φιλ - - αν - - θρω - - -  
 - - πε - ε - ε - ε Κυ - ν - ν - ν - ρι - ε.

*Key to printed Neumes.* Oligon-Hypsele —/ ascending fifth.—Kratema ↗ prolonged accented note.—Xeron Klasma ↘ mezzo-staccato.—Kratemohyporrhoon ↙ two descending seconds with prolongation of the foregoing note.—Apoderma ↛ pause.—Piasma \ slight accent.—Kuphisma ↜ ascending second.—Parakletike ↝ slur. The remainder will be easily understood.

Athen.<sup>2</sup> The variants and medial signatures are not everywhere clear. Line 1.

b	a	b	a b
-τα	την	εις	Αι
g - c'		c'	
4. - μω		σου.	

5.  $\dot{\epsilon}$ - Piasma added, but the notes seem to be the same.

6.  $\pi\lambda\omega\iota\cdot]a$  Ad fin.  $\beta'$  + two seconds = b : this refers to the next step, where a modulation into the authentic mode seems to be made.

g a

10.  $\tau\alpha \delta\iota\kappa\cdot$  Ad fin. the same signature as in 6. It recurs at end of II.

d' a c' - d' c' b b

II. - $\gamma\omega s$   $\epsilon\rho$  - -  $\gamma\omega v$   $\epsilon\nu$  -  $\theta\omega s$ .  
b d' c' g g

12.  $\kappa\alpha\iota \pi\lambda\eta\cdot \theta\omega s$  —  $\pi\omega$  -  $\lambda\omega$ . The signature at the end of this line is probably wrong (b instead of g); this is a common mistake of the scribes.

13.  $\dot{\epsilon}\nu$ : a red subsidiary sign may be the Xeron Klasma (mezzo-staccato).

14. Ad init. Man. II dub.

f d e  
- $\theta\eta$  -  $\tau\omega v$

15. After  $\tau\omega s$  the same wrong signature as in 12. The mistake was probably due to the prominence of b-flat in the next phrase.

16. - $\pi\epsilon$ . Piasma added (slight accent in descent) and  $\tau\rho\iota\iota\cdot$  Antikenoma added (portamento). This hymn is missing from the Trinity MS.

Hymn XI, Cod. B.M. Ad. 27865, f. 154.

(Facsimile in *Musical Antiquary*, 1911, 167.)

Mode IV, Plagal, from g, Finalis g.

(1)  $\Phi\alpha - \nu\epsilon - - p\hat{\omega}v - - - - \dot{\epsilon} - - au - - - - \tau\hat{\omega}v$

$\tau\hat{\omega}s \mu\alpha - \theta\eta - \tau\hat{\omega}s - - - - \circ \sigma\omega - - - - \tau\hat{\eta}\rho - - (2) \mu\epsilon - \tau\hat{\alpha}$

τὴν ἀνάστασιν (3) σοὶ Σὲ μων δέ - δω - κε

τὴν τῶν προβάτων νομῆν - - -

(4) εἰς ἀγάπην πηγάντες ἐκτητησιν (5) τὴν - -

τοῦ - - ποιμαίνεν φροντίτελον - - -

δα αἴτῶν τῶν - - - - - (6) Δέ - ο

συτεξελεγεντεῖλον λείσις, Πέτρε,

(7) ποιμαίνετα ἀρνία μουν ποι - - - - -

μαίνετα πρόβατά μουν - - - - - (8) ο

δὲ εὐθέως ἐνδέλευτον μέτρον - - - - -

11. The British Museum MS. Ad. 27865 contains the Resurrection Hymns, but as it is less clear than the Athens and Cambridge MSS., I have not made it my main source. Some years ago, however, I gave a facsimile of the page containing the eleventh hymn. This, after comparison with Athen., now yields a satisfactory text. The Bareia is nearly flat, e.g. over [Στ]μων in l. 3. We may suppose the stroke between the Oligon and Elaphron over -μῆν (l. 3 fin.) to be also Bareia. The Xeron Klasma is frequent, e.g. over -νε, l. 1. Note also 5, ποι-, the Kratemohyporrhoon-Oxeia surmounted by Kentema, and a Piasma

before the lower Elaphron. 8 init.: the ink has run above δ. Read two separate Apostrophi and Klasma: so Athen. -με-, Psephiston (accent), not Hyporrhoe. (Athen. agrees.) 9 fin. -νε-: the musical signs are piled up through lack of space. We follow the clear order of Athen., where the individual signs are the same as in Cod. B.M.

II. -τήν. Gorgosyntheton. Athen.<sup>1</sup> also has it, the shape being slightly different from that previously found (Hymn 9, l. 11 in Man. II). The British Museum MS., though boldly written, is untidy and does not place the neumes accurately over the syllables. The differences in Athen. are unimportant. There seems to be a mistake in l. 1, -ταῖς, where Athen. reads Oligon Ison over Xeron Klasma, where B.M. and Ambros. have Ison twice. The ornamental tail of the Φ may have led to confusion: but the same mistake recurs over -τι-, l. 5. It will be seen that the second passage is a repetition of eighteen notes of the first; so that the scribe might easily have copied the false reading with the rest. B.M. is right in both places. Such instances shew how an inferior MS. may sometimes help us to correct a good one.

#### CONCLUSION.

At the end of the first instalment of this article in last year's *Annual*, we gave certain deductions based on the study of all Leo's Morning Hymns in the Round Notation. We trust that the fuller presentation of the evidence will by now have led the reader to agree with us. To publish musical manuscripts in facsimile, as well as texts of mediaeval musical handbooks, was one of the chief aims of the Copenhagen Conference, already mentioned. Such a project will depend on the financial support that learned societies throughout the world may be able to give to it: until this is done, we cannot expect to make a complete scientific study of the subject. But in the meantime there is a wide field for the single-handed worker, especially in the notations older than the Round system and in the modifications of that system at the end of the Middle Ages.

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## EXCAVATIONS AT THERMI.

(PLATES XXII-XXVI.)

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### INTRODUCTION.<sup>1</sup>

SINCE the first account of Thermi was written for Vol. XXX, a large area has been excavated, completing, more or less, the Early Bronze Age settlement, and defining, as far as is possible, a settlement belonging to the Late Bronze Age.

As space is not unlimited, I have here omitted questions dealt with in Vol. XXX, and, when discussing new aspects of the site, have published less detailed evidence than I could wish. In short, this report must be supplemented, not only by the earlier one, but by a separate and complete publication. In the meantime, I have done my best to give a general outline of the new developments.

The staff consisted of Miss Six, Mr. Hutchinson, Mr. Brock, Miss Mitchell (who was responsible for the maps during one season), myself and, for a shorter period, Mr. Cuttle of Downing College and Miss Horner of Newnham College.

### ARCHITECTURE : THE EARLY BRONZE AGE SETTLEMENT.

*Towns I and II* resemble each other closely in detail and often coincide in plan. Tradition was strong in the northern quarter, where the builders of Town II re-used the old houses, repairing walls, laying down fresh floors and making extra partitions. In the southern section, a more enterprising spirit prevailed, and new houses were built at a slightly different angle to the old (Pl. XXIV, 6). While the Anatolian type of house, long and narrow, was always dominant, we find, here and there, the broader type associated with Crete and, apparently, with the Cyclades.

It is regrettable that so much of our town has disappeared, owing to the collapse of the cliff on the east. Enough remains, however, to shew

<sup>1</sup> For abbreviations, see *B.S.A.* xxx p. 1.

that the buildings were arranged on a more or less radiating system. On the west, an extensive open space beside the well and ash-pit (see plan, Pl. XXII) indicates that here we are outside the town. A narrow passage between buttresses is probably the entrance, for it bears some resemblance to the west gateway of Town V. If our identification is correct, it suggests that the main approach to the town was on the western side at all periods. Inside one of the buttresses, a vase was found, the stones being carefully arranged to leave a space round it.

A little further south, the walls on the outskirts of the town become fragmentary, and this is true of all towns except No. V. The reason is as follows: virgin soil slopes upward from the coast, the foundations rise with it, and in consequence tend to suffer from the telescoping of the strata.

No trace of any fortification wall was found, though we searched most carefully. Possibly the inhabitants relied on the blind back walls of their houses for defence,<sup>1</sup> which they could not have done had not the conditions been comparatively peaceful.

*Town III*, built on the same lines as Towns I and II, is in a much worse condition: it must have been destroyed and to a certain extent levelled when its successor was built. Archaeologically, it is of great importance, first because it covers the interlude between Troy I and II, secondly because it introduces the *bothroi*, and thirdly because it has produced two fragmentary skulls and one complete skull.

(1) The exact period in prehistory which it occupies is shewn by the pottery and has been discussed elsewhere.<sup>2</sup> (2) Concerning the *bothroi*, a few words must be added to what was published in Vol. XXX. There is a considerable variety of form, sometimes the result of one *bothros* being made on the top of another, sometimes the outcome of a deliberate plan. The example illustrated on Pl. XXIV, 5, for instance, is double,<sup>3</sup> and a channel leads from one basin to the other. With regard to the function of these *bothroi*, Mr. Hutchinson's theory should here be mentioned, since it has not been proposed for any of the *bothroi* found elsewhere: he considers that they may have been to drain the water which accumulates in the houses during the winter season. In the lower rooms of the modern

<sup>1</sup> I am indebted to Professor Myres and Mr. Wace for this suggestion.

<sup>2</sup> B.S.A. xxx, pp. 22–24, 51. *Antiquity*, vi, 21, p. 79.

<sup>3</sup> Actually from Town IV a: see below.

village, clay-lined pits are made for this purpose: the 1931 'dig house' owed its dry condition to a couple of pits in the store-room.

The *bothroi* continue into the first stage of Town IV, which we call IVa: after this they disappear. It is the examples in IVa which are contemporary with the *bothroi* on the Greek mainland, for the pottery associated with them can be linked on to the Early Helladic pottery and the early Macedonian wares. The *bothroi* from Town III must, therefore, be earlier than those in Greece, and this fact, combined with the presence of *bothroi* in a Thermi III context at Hanai Tepe near Troy,<sup>1</sup> is a strong argument in favour of an Anatolian origin.

(3) Two fragmentary skulls come from the debris of Thermi III walls and were mentioned in Vol. XXX. This year a complete skull was found for the first time<sup>2</sup>: it lay beneath a street, in a pure Thermi III deposit, together with a number of animal and a few human bones which were found too late to be examined before writing this report.

The reoccupation of Hissarlik and the erection of Troy II mark the beginning of a new epoch in prehistory, when Troadic culture is carried by commerce, colonisation and conquest into Macedonia and makes its influence felt as far as mainland Greece. Troy becomes definitely the metropolis, while Thermi celebrates the new prosperity by the foundation of a new town differently oriented and differently planned.

*Thermi IV* runs north-east, south-west instead of north and south, and the houses are cut up into blocks by streets and alleys. All houses are long and narrow, but their internal arrangements differ: some have two large rooms back to back, some have a small anteroom with a large living-room behind it, some have a semi-apsidal end. A period of reconstruction divides our town into two stages, IVa and IVb, a division which is emphasised by the fact that IVa contains *bothroi* while IVb does not. In the north-west is the wide road illustrated on Pl. XXIV, 3, which was laid down when Thermi IVa was built, continually repaired by the inhabitants of IVb, and used as a main thoroughfare of Town V.

The most striking peculiarity of Town IV is its extent: in both stages it is larger than its predecessors and its successor. This is particularly noticeable on the west, where the houses, like those of Towns I and II, become gradually more fragmentary, extending 22 metres beyond the

<sup>1</sup> Calvert in Schliemann's *Ilios*, pp. 708-709.

<sup>2</sup> Not yet measured.

walls of Town V and 33–36 metres beyond what we conjecture to be the limits of Town II.

Here and there are traces of a wall, or walls, that may run in a circle round the buildings: their whole course cannot be traced: they are thicker than the average house wall, being *ca.* 90 cm. wide, but so much narrower than the fortifications of Town V that they must be for enclosure rather than for defence.

The features of Thermi V have been described in *B.S.A.* XXX, with the exception of (a) one area in the centre of the town and (b) the fortifications.

(a) In the central area is a single house with antae, marked X, which merits discussion. Antae are the hall-mark of the megaron type, and the question arises whether our house is a predecessor of the megaron in Troy II B. It cannot, of course, be called a true megaron itself, for megaras should be isolated and should have a central hearth. Moreover, antae suggest the projecting ends of logs, and are supposed to be connected with a northerly, timber-bearing region. Nevertheless, the presence of antae and a porch in Thermi has, I think, some connection with the megaron in Troy II, if only that it shews how easily the type could take root in the north Aegean.

(b) Fortifications.<sup>1</sup> The town wall can be followed round the west and south-west boundaries. On the north, the slope of the ground has carried it away together with the houses beyond the wide street; the sea has dealt with any defence that may have protected the eastern approaches; and a modern ditch has made havoc on the south.

The complete fortification consists of an inner wall about 2 m. wide and two or more outer walls (Pl. XXIV, 1, Fig. 1). The inner wall is made of slabs of schist, and small irregular blocks of schist or limestone, filled with earth. It is never preserved to a greater height than 1·10 metres, and we cannot tell whether the superstructure was of stone, wood or mud brick. Stone is most probable, for, if removed, it need leave no traces, whereas wood or mud brick could not fail to have coloured the soil.

Here and there, house walls of Town IV were incorporated in the

<sup>1</sup> Plate XXIII is not up-to-date, for it omits some of the outer walls near the western and southern gateway (see Fig. 1) and includes cross walls of small stones which really belong to Town IV. The final plan was finished too late for inclusion.



FIG. I.—AREA II AND SOUTHERN GATEWAY.

main wall, and often we find the back walls of adjacent houses, distinguishable by their smaller, rounder stones, pressed against it.

The outer fortification walls, also mainly of schist, usually have a pronounced batter, a carefully finished outer face, and a rough back reinforced with earth. There are two such walls by the western gateway, four by the southern gateway.

The western gateway is protected by a projecting wall on one side, a watch-tower on the other (Pl. XXIV, 4; Pl. XXIII). As the foundations of the watch-tower are higher than those of the adjacent walls, it may belong to a later date. Those who entered were invited to pass round two sides of the watch-tower by the subsidiary wall (*Y*), beyond it, while the straight approach could be closed by a gate fixed in the socket (*Z*). This approach was paved where it ran between the tower and the projecting wall.

The southern gateway (Fig. 1) may be a legacy of Town IV, to which the wall *y* belongs. *x* and *x'*, however, rise over *y* and are therefore slightly later; at their inner end they meet the outer wall of Town V, and they seem to have been an integral part of the Town V gateway system. They look like the stone casing of a bastion, since they face outward and are rough on the inner side where the earth core would be.

This entrance leads into the town by means of a very narrow passage, *z*, between very thick walls—a trap to catch unwary invaders.

It is instructive to contrast the extensive fortifications of Town V with the casual defences of the preceding towns. Evidently we have here the same conditions as at Troy, where the second city was surrounded by magnificent ramparts and gateways, while the first was protected by a wall so inconspicuous that some scholars have overlooked it.

This fortification period must, as Professor Myres has pointed out,<sup>1</sup> reflect the approach of some new and hostile power, and there seems little doubt that this power had its headquarters in Central Anatolia.

W. L.

#### ARCHITECTURE : THE LATE SETTLEMENT.

Outside the Early Bronze Age settlement, on all sides, are traces of a later culture. The traces in question consist of rather scanty architectural remains and quantities of the pottery called provisionally 'Lesbian Red Ware' (see p. 157). As the later phases of the Red Wares

<sup>1</sup> *Who were the Greeks?* p. 142.

can be dated by copies of Mycenaean vases and by Mycenaean imports, we may assume that most, though perhaps not all, of the late occupation belongs to the Late Bronze Age.

With a view to discovering the stratigraphical relation of the Red Ware culture to the Early Bronze Age settlement, we excavated the area *II* (see Fig. 1) outside and to the south of the town walls : later we explored the area *T* beyond *II*, where the houses seemed less ill-preserved than elsewhere.

The most satisfactory architectural evidence was provided by a massive terrace wall (Pl. XXIV, 2 : *a* on Fig. 1), possibly a fortification, which ran east and west, crossing over the town walls of the settlement and continuing into *I* (*B.S.A.* xxx, Pl. 1). This was so broad that it was at first thought to be a street, and is referred to as such in last year's report. Above it lay a quantity of clay, burnt a brick-red colour, not unlike the remains of a mud-brick superstructure.

The terrace-like construction of this wall suggested that at one time the ground outside it must have sloped down towards the south. This was confirmed by the position of stones which had fallen off the wall, and still more by the stratification of the pottery, the late Red Wares being found almost on virgin soil in the extreme south corner of the area—a drop of about 2·5 metres—while close to the terrace they ceased to occur within the depth of half a metre (see Fig. 2).

During the course of time the slope became less steep, and a second terrace (*a'* on Fig. 1) was built 2 metres further towards the south, backed against the earlier wall. This was a more impressive structure, being faced with a single course of very large stone blocks.

In the southern corner of *II* is a fragmentary wall (*b* on Fig. 1) associated with a floor-level .70 m. below the surface. Above this floor-level were found two fragments of cups obviously copying Mycenaean wares : similar copies and fragments of Mycenaean imports were common in the houses of *T*, where, however, they extend 1·80 m. below the surface. At this depth in *T*, 3·38 m. above sea-level, is a floor, and below the floor Mycenaean shapes cease, giving place to a deposit of the types associated with the terrace in *II*.

In consequence, we can postulate two main periods of the Red Ware occupation ; the first of which produced the terraces in *II*, while the second saw the erection of the houses in *T*.

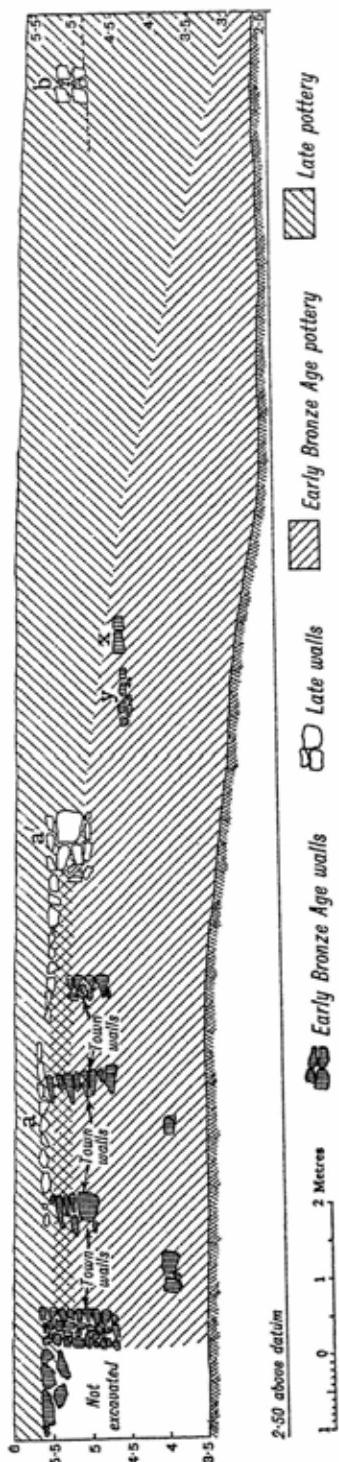


FIG. 2.—AREA II, SECTION.

Outside the terrace walls to the south, although an area of considerable size was excavated, no walls were found except *b* (see Fig. 1) described above and the curved wall, *c*, forming a half-oval. It is particularly unfortunate that this structure is incomplete.

To the north of the terrace walls, and about 4 metres outside the town walls of the settlement, it was possible to distinguish the outline of some fragmentary room walls (*d*), intersecting each other at slightly different levels and oriented on different lines. Associated with these was a hearth with the remains of a pithos beside it—an arrangement which was familiar to the earlier settlers. At the base of the pithos a wheel-made jar was found (Pl. XXV, No. 26).

The pottery from the half-oval building and from the walls just described is inconclusive : *i.e.* it may belong to the terrace period or to the period of Mycenaean importations. The general arrangement of the site is our only pretext for assuming, as we should like to do, that the oval building belongs to the later period, the buildings behind the terrace to the earlier.

The final stage of occupation is represented by a clearly defined stratum of soil burnt a deep red colour, which shews that by this time the ground had become practically level, though there had been no appreciable rise in what we may call the occupation level (*i.e.* the level artificially extended by the terrace walls). From this stratum also comes pottery of the more advanced type of fabric, including some Mycenaean examples, almost always burnt and corroded too much for actual dating.

Where, then, are we to look for the town which the terraces supported? From the amount of wheel-made pottery washed down the slope from the terrace wall, we may suppose that a considerable part of it lay above the southern part of Thermi V. The terrace walls may perhaps have marked its southern limit. Wheel-made sherds were found on the surface at this end of the settlement, and the shallow depth of earth covering the houses of Thermi V might account for the disappearance of those which succeeded them. As earth was washed down from the top of the mound, the uppermost walls would be exposed, and become a useful quarry for later builders. Possibly the later builders were none other than the latest inhabitants of the site, whose occupation is marked by the burnt stratum already referred to; possibly there was a general decapitation at some later period. In any case we can say with certainty that Thermi was

occupied in the Late Bronze Period some time before 1400 (see p. 161), that it expanded over a large area, and that it finally perished in wholesale destruction and conflagration.

W. L.  
J. K. B.

#### POTTERY: LESBIAN RED AND GREY WARES (Pl. XXV).

The foregoing account of the late occupation will have explained what is meant here by the earlier phase, henceforward called A, and the later phase B: it will, moreover, have prepared readers for the fact that the material from just outside the terrace wall, which belongs apparently to phase A, has no internal stratification.

The Lesbian Red and Grey Wares, found so far at Thermi, Pyrrha<sup>1</sup> and Antissa, form a series distinctive as a whole, but composed of various elements. Some vases are made on a quick wheel, some on a slow wheel, and a few by hand: the latter do not seem to be confined to the earlier stage of development. The Red Wares are slipped, washed, polished or plain: the rarer Grey Wares are polished or plain or, like No. 28 on Pl. XXV, have the surface darkened by some kind of coating. Of the shapes, some have their counterpart in Troy VI, some are survivals from the Early Bronze Age, but the majority are hard to parallel: peculiar to phase B are the copies of Mycenaean vases mentioned on p. 161.

Many shapes, especially the finer ones, occur in Grey Ware as well as Red: it has not, therefore, seemed worth while to describe the Grey Wares separately. They form a very small percentage at Thermi: it is not till we reach a later stage, represented at Antissa (see p. 169), that they predominate. No doubt potters soon discovered that they could produce either colour at will, and then followed the fashion. It is, however, difficult to account for the strongly Minyan character of the vases at Antissa which belong to the sub-Mycenaean period.

An account of the shapes should begin with the 'survivals.' Vases with lunate lugs recall early jars like the one in *B.S.A.* xxx, Fig. 9, p. 25: bowls with horizontal lugs below the rim, vertically pierced or not pierced at all, are also in the Early Bronze Age tradition (*op. cit.*, Pl. VI, No. 300).

<sup>1</sup> From Dr. Böhlau's excavations. The majority are as yet unpublished, but some of the Grey Wares, which represent a later stage than the material at Thermi, have appeared in *J.H.S.* lii, p. 10, Fig. 4, through the kindness of the excavator.

These lugs were used for vessels other than bowls,<sup>1</sup> which are too fragmentary for reconstruction. Bowls with incurved rims are common (see Pl. XXV, Nos. 10, 11) and develop into bowls like Nos. 13 and 14. Lunate lugs, horizontal lugs, and incurved bowls occur in phase B as well as in A. We have also the lip of a beaked jug (like S.S. 619 and some specimens that seem to belong to Troy III-V, but more curved) from an undoubtedly early context, covered with red wash.

The shapes which can be connected with Troy are, as has been said, fewer than one would expect. We have, however, rims like S.S. 3106,

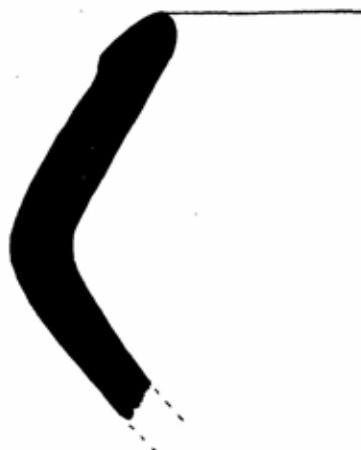


FIG. 3.—PROFILE OF BOWL.

part of a spouted vase with basket handle (late) like S.S. 3221, three feet like S.S. 662, and the lugs already mentioned. Our knobbed jugs differ in profile from S.S. 3043, resembling more closely a Cretan form belonging to L.M. II,<sup>2</sup> and a grey example from Hanai Tepe. S.S. 3099 may have been like our dishes Nos. 12 and 17 on Pl. XXV. Add S.S. 3137, rare at Thermi, and S.S. 3491, mentioned in *B.S.A.* xxx, p. 28. Attachments in the form of animals' heads and horns (S.S. 3251 ff.) are late in Lesbos: we have stratified examples at Antissa and two surface finds at Thermi. Indeed, a whole class of vases found in Troy VI-VII is absent at Thermi and present at Antissa—the Grey Wares with wavy lines.<sup>3</sup>

Certain shapes not illustrated on Pl. XXV must here be mentioned.

<sup>1</sup> Cf. S.S. 3000.

<sup>2</sup> *B.S.A.* Suppl. p. 29, Fig. 18a.

<sup>3</sup> See *J.H.S.* lii, p. 5. Will it prove to belong to Troy VII rather than to Troy VI?

Common at all periods is the profile illustrated in Fig. 3, which also appears in the lowest layer at Antissa. Trefoil-mouthed jugs, found constantly in A and B, were made on a pattern not known at Antissa or exactly paralleled at Troy.<sup>1</sup> The mouth is wider, more conventionally trefoil, the body rounder, there is a ring round the neck and a groove on the handle. Bridged spouts are combined with varying rims. Two striking vases of large size appear in Figs. 4 and 5. The one in Fig. 4 is of coarse grey



FIG. 4.—VASE OF COARSE GREYISH WARE.

gritty ware, ht. ·273 m., from *T.* 4·5–4·25 (*i.e.* stage B). The one in Fig. 5 is of coarse greyish ware, unpolished, ht. ·42 m. The mouldings on the profile do not shew in the photograph. From *P.* 5–4·8 m. (stage B). There are, of course, among the numerous fragments, many more types of vase, and these should be illustrated in a future publication.

At present it is possible to isolate three classes only. Nos. 20–24 on Pl. XXV belong to what we call the *Well Bowl class*, since many were found in two wells cut by the late settlers in the Early Bronze Age settlement. They are coarse and irregular and seem to have been made on a slow

<sup>1</sup> The nearest approach is S.S. 1346 from Troy III–V.

wheel. Sometimes a handle is added and they become cups. One example was found beneath the terrace wall, and none can be associated with phase B.

Certain vases and fragments were named *Transitional* because they seem to be hand-made, and have a polished surface which looks early. Three fragments, however, turned up in a late context. Some of the



FIG. 5.—VASE OF COARSE GREYISH WARE.

bowls with lugs were in this fabric, but two of the best specimens are Nos. 25 and 28 on Pl. XXV.<sup>1</sup> There is, moreover, a fragment with a 'basket handle' reaching from the rim to the inside, not unlike a vase from Palaikastro.<sup>2</sup>

Before discussing the late and important class of *Mycenaean copies*, the other vases on Pl. XXV should be briefly described. The bowl No. 11

<sup>1</sup> For No. 25, see *B.S.A.* xxx, p. 28, note 1. No. 28 is in a very dark grey ware enhanced by a slip or varnish. From II. 3·5–3·25 (early).

<sup>2</sup> *B.S.A.* Suppl., Pl. VIc. Our vase, however, has a single handle rising from the rim.

is early, and the bowl 10, of similar shape, may be early too, since it comes from one of the houses marked *d* in Fig. 1. This quarter of the site is also the home of No. 26.

Dishes like 12 and 17 seem to have been popular at all periods, and may be the equivalent of S.S. 3057 and, as already indicated, of S.S. 3099 at Troy.

The cups, Nos. 1 and 5, come from Thermi: No. 7 is from Antissa. Their profile is essentially the same as that of the coarse cups of the *Well Bowl class*, and is familiar from Kamares wares of the M.M. I. period (cf. B.M. A. 469).

The Thermiates who produced *copies of Mycenaean vases* seem to have been comparatively unenterprising. With the exception of the mug, No. 19,<sup>1</sup> which is of a well-known Cretan and Mycenaean type,<sup>2</sup> they confined themselves to one-handled cups like Nos. 2, 3, and 4. The potters of Antissa had more initiative, and are responsible for No. 9, as well as for No. 2 on Pl. XXVIII. That they also made cups is shewn by No. 8 on Pl. XXV, which almost certainly had once a handle. Now, these cups are arrestingly like Late Helladic II cups in yellowish-buff ware from Korakou,<sup>3</sup> made in the fifteenth century, but the form survived and we cannot safely date provincial imitations as early as distinguished originals.

It remains to examine the fragments of imported Mycenaean pottery, and here we must explain with regret that the surface has in most cases been lost through some corrosive quality of the ground. Fragments of kylikes occur; there are pieces of kraters, one of which shews the degenerate spiral of Furtwängler-Löschke, *Mykenische Vasen*, Pl. XXIX, 254. There is also part of a three-handled jar covered with scale pattern (cf. B.M. A. 825 from Ialysos), which was found in the same house as the sword, knife and arrow-head. No sherds either at Thermi or Antissa belong to the late stages of Mycenaean ware like the Granary class.

It seems, therefore, that in spite of certain fixed points, no definite chronology can be made for the early stages. We may date phase B from about 1375 till about 1200, but we cannot date phase A till more is known about Troy and Western Anatolia. We cannot even say whether any of our wares are earlier than the terrace walls (p. 154), and if we push the

<sup>1</sup> B.S.A. xxx, p. 27, Fig. 10.      <sup>2</sup> Cf. Forsdyke, *B.M. Vases*, I, part 1, pp. 148-9.

<sup>3</sup> Blegen, *Korakou*, p. 57, Fig. 78.

beginnings of the Red Ware period back to 1800, which is tempting in view of one or two links with Middle Minoan Crete and a possible contemporaneity with Troy III-V,<sup>1</sup> it leaves rather a long gap to fill before phase B begins.

In considering the origin of the Red Ware makers, we must take into consideration a fact that has not yet been mentioned: the remarkable likeness between the *fabric* of our vases and those of the Middle Bronze Age in Central Anatolia.<sup>2</sup> This cannot fail to strike anyone who has seen the pottery in the Museum at Angora. It seems, therefore, probable that our settlers came from somewhere in or near the Hittite area, and that Hittite influence itself was felt once more at that later period when the animal head and horned attachments became fashionable.<sup>3</sup> A prolonged period of contact is, after all, not unlikely. At the same time, Lesbos was in touch with Troy on the one hand, Crete on the other; while later on, Mycenae became the dominant factor. The situation is, in short, very much what later Greek tradition would have led us to expect.

W. L.

#### SMALL FINDS.

A selection of the most important metal objects is illustrated on Pl. XXVI, affording further evidence concerning foreign relations, both in the Early and in the Late Bronze Age.

1. *Bronze<sup>4</sup> sword or dagger*, length .34 m. From Room 4 in T., the handle half at 4.60, i.e. .35 below the top of the burnt stratum, in earth where the traces of burning are becoming fainter; the other half at 4.25 m. The handle is flanged and provided with one rivet only: the blade has a wide midrib and is corroded at the sides.

This sword belongs to the 'horned type' which is typical of Late

<sup>1</sup> The complete absence at Thermi of the two-handled goblet—the so-called δέπας ἀμφικύπελλον—is an important factor. We know that it belongs to the stage IIb at Troy which is missing at Thermi, but we do not know when it ceased to be made at Troy.

<sup>2</sup> Cf., however, Frankfort, *Studies in Early Pottery*, ii, p. 69, on Red Wash Ware at Troy.

<sup>3</sup> This was suggested in my lecture to the Royal Anthropological Institute, February 1932. I am indebted to Dr. Frankfort for pointing out the prototype of one of these heads, in Schmidt's *Anatolia Through the Ages*, p. 79, Fig. 111: cf. p. 157.

<sup>4</sup> None of the metal objects here described have yet been analysed, and are provisionally called bronze or copper by reason of (a) their appearance, which gives a definite indication, and (b) their provenance. Cf. the report on metal from the Potter's Pool and other objects from the Early Bronze Age Settlement in *B.S.A.* xxx, p. 39.

Minoan II.<sup>1</sup> The examples from Cretan and Mycenaean sites are, however, longer and possess more rivets on the handle. On the other hand, a somewhat later sword from Gezer has a single rivet,<sup>2</sup> while the example from Olympus in the British Museum has none.<sup>3</sup>

It is, of course, natural that we should find variant or provincial types in outlying parts of the Aegean. The question remains as to the date of our sword from Thermi. Like the copies of Mycenaean vases with which it was found, it may be a little later than the originals which it seems to imitate, and we ought, perhaps, to place it after 1400 rather than before.

2. *Blade of bronze knife*, .218 m. long, found in the same room as the sword (T. 4) at 4·25 m. This seems to be the lowest limit of the burnt stratum, which fades out very gradually. The knife has a thick flange running for about half-way on its upper edge, but is, unfortunately, handleless. Though it might belong either to L.M. II or L.M. III, it should, I think, be attributed to the latter period.

3. *Fragment of blade of copper dagger*, .068 m. long, from the Potter's Pool. For a description of this small deposit, outside the settlement, see *B.S.A.* xxx, p. 39. The dagger has a short tongue, no midrib, and two oblong holes for hafting. The type seems to be Cycladic but occurs at Troy: it is common to daggers and spear-heads.<sup>4</sup> No tanged dagger of bronze or copper has yet been found.

4. *Bronze Arrow-head*, .059 m. long, from P at 4·90–4·70 m.: i.e. an area west of the western gateway, and a stratum belonging to the Late Bronze Age. As the arrow-head was found below a floor-level, it cannot belong to the latest occupation of the site. The shape is paralleled at Tylissos, Isopata and elsewhere.<sup>5</sup>

5. *Bronze Arrow-head*, .056 m. long, from the same room and stratum as the knife and dagger (4·50–4·25 m.). Cf. the arrow-head from Troy, *S.S.* 6450.

6. *Copper pin with rolled head*, .085 m. long. From the II dump. This type plays an important part in the Early Bronze Age, occurring not only

<sup>1</sup> Evans, *Prehistoric Tombs of Knossos*, pp. 105 ff.

<sup>2</sup> Macalister, *Excavation of Gezer*, III, Pl. LXXV, 13.

<sup>3</sup> Forsdyke, *British Museum Quarterly*, v, p. 106, Pl. LI b.

<sup>4</sup> The example from Amorgos, 'Eph. 'ApX. 1898, Pl. 12, 1, differs slightly in outline and section. See also the spear-head Déchelette, *Manuel d'Archéologie* II, 1, p. 218, Fig. 69, 1, and the dagger *S.S.* 5848.

<sup>5</sup> 'Eph. 'ApX. 1912, p. 222, Fig. 32. Evans, *Tomb of Double Axes*, p. 6, Fig. 10.

at Troy (S.S. 6380-6395), but also in Central Europe, the Caucasus, Mesopotamia and at Anau.<sup>1</sup> At Thermi it appears in the early towns as well as in the fourth and fifth settlements. There are seven examples, including Nos. 6 and 8 here.

7. *Copper pin*, .068 m. long, from the Potter's Pool. The head is decorated with lines converging at the apex, the neck with three plastic rings.

8. *Copper pin with rolled head*, .092 long. From II, at 5 m., not far beyond the terrace wall. In this stratum there was 80 per cent. Lesbian Red Ware (earlier stage) and 20 per cent. Thermi V ware. The pin, however, definitely belongs to the Early Bronze Age type discussed in connection with No. 6.

9 and 10. *Copper Pins ornamented with birds*. No. 9 is .136 m. long and comes from the extreme north house of Town I (2.60-2.50 m.). No. 10 is .15 m. long and also comes from Town I (2.90 m.). Cf. the bone pins ornamented with birds, and the metal pins ornamented with animals from Chalandriane in Syria.<sup>2</sup>

Nos. 11-17 are a very small proportion of the terracotta objects found since the last report was written. I have illustrated only types which are new or examples of old types which, like Nos. 14 or 15, are of especial merit.

11, 12, 13. *Fragments of terracotta figurine*, found together and probably belonging to each other, in a stratum intermediate between Towns I and II (*i.e.* where the rebuilding which eventually produced Town II had begun. Level 3.5 m., area N. II B). The head is .05 cm. high and has animal's ears. A hole is bored through the crown of the head from front to back. I know of no close parallel in the Aegean area.<sup>3</sup> The other objects look like an arm and a leg, and with them was found part of a plate with a crinkly edge. All are of well-fired red clay, and the plate shews traces of a red wash.

14. *Terracotta head*, ht. .047 m., of coarse red clay. This was found in Town V, house A1 (next to the pseudo-megaron house).

<sup>1</sup> For all these parallels, I am indebted to Dr. Frankfort:—Central Europe: Ebert, *Reallexicon der Vorgeschichte* II, Pl. 30, No. 20. Caucasus: Hančar, *Eurasia Septentrionalis Antiqua*, VII, pp. 123 ff., 158, 159. Materials for the Archaeology of the Caucasus, VIII, Pl. XXII. Mesopotamia: Mackay, *Report on the Excavation of the 'A' cemetery at Kish*, I, Pl. XIX, Nos. 7 and 8. Anau: Pumpelly, *Explorations in Turkestan*, p. 154, No. 269.

<sup>2</sup> 'Eph. 'Apx. 1899, Pl. 10.

<sup>3</sup> The stone figure Tsoundsas ΑΣ. Pl. 37, No. 1, p. 303 should, however, be taken into consideration.

15. *Terracotta figurine*, ht. .085 m., of polished grey ware. This represents a woman (the breasts do not shew in the photograph) of the usual Thermiote type. From area K at 4.8 m.

16 and 17. *Terracotta lids*. No. 16 (ht. .105 m.) is of greyish ware, polished, and was found in a fourth city stratum under the western gateway. The left-hand ear is pierced diagonally. No. 17 (ht. .082 m.), of brownish-red ware, polished, was also found beneath the fifth city walls near the west gateway. Both ears are pierced diagonally.

18. *Female figure of schist*, ht. .053 m. From II, outside the terrace wall in a transitional stratum (15 per cent. Lesbian Red Ware, 85 per cent. Thermi V Ware). It seems probable, however, that the figurine is contemporary with the Lesbian Red Ware sherds, since the type has not been found in the Early Bronze Age settlement.

W. LAMB.

#### *Corrigenda.*

In *B.S.A.* XXX, Fig. 6, on p. 21, should have been described as 'Decorated Pottery: various periods,' instead of 'Pottery: First Period.' One group of houses on the Thermi II plan now appears to be earlier than the rest, so an intermediate plan may prove necessary.

## ANTIASSA.

(PLATES XXVII, XXVIII.)

ANTIASSA, now Ovriokastro, 16 km. south-west of Methymna, is, of all ancient sites in the island of Lesbos, the loveliest and the most isolated. On the land side it is cut off by the lower slopes of the massif which culminates in Mt. Ordymnos; on the sea side it is unsheltered and provided with the shallowest anchorage. Nowadays, a small caique can only call during the hours when the wind drops: long ago, before the change of coast level, deeper water may have provided easier approach.

Koldewey<sup>1</sup> has proved the identification of Ovriokastro with Antissa beyond dispute, and must be referred to for general discussion and for comments on the Genoese and Turkish fortifications. For our own purposes, the site, which is extensive, may be divided into four parts: (1) *The Castro*. This is a round, hilly promontory, almost separated from the mainland by the mediaeval moat, and built over with Genoese and Turkish walls. These have covered all the ground with a thick mass of fallen stones which make excavation impossible without unlimited funds. We tested the wall on the east, which Koldewey describes as very early,<sup>2</sup> but found no prehistoric sherds associated with it: nevertheless, it may well belong to the Late Bronze Age. (2) *The Promontory* between the Castro and the Acropolis. This was the most repaying area, since it produced both Late Bronze Age pottery (well represented at the north end) and bucchero (at its best on the south-west side): see below. (3) *The Acropolis*, a rocky hill behind the Promontory rising to a height of 36·50 metres. Here we examined the scanty remains of terraces or fortifications, and made tests in the hope of finding public buildings: see below. (4) *The Tombs*, on the slopes of the hill south of the Acropolis. See pp. 174-177.

The following report will deal with the Promontory, the Acropolis and the Tombs. So far, the excavation has been tentative; but we have now chosen places on which to concentrate. The party consisted of all those

<sup>1</sup> Koldewey, *Die Antiken Baureste der Insel Lesbos*, p. 19, Pls. 6 and 7.

<sup>2</sup> *Op. cit.*, p. 20, Pls. 6A and 7, 1.

present at Thermi with the exception of Miss Horner and Mr. Cuttle; we were fortunate in having also the collaboration of Mr. E. Paraskevaïdes, Ephor of Antiquities for the north-eastern Aegean.

#### THE PROMONTORY.

At the north end is the moat, cut by the Genoese builders of the fortress on the Castro. Three tests were made in its western side. Here, one metre of sand covers the surface till just above sea-level, at *ca.* .06 m. After this there is earth which rapidly becomes saturated. Walls, however, occur at a level of .35 m. or less above sea-level and continue downwards into the water. The earth produces the Red and Grey Wares, described below, of the Late Bronze Age, in too poor a state to merit description. It was a surprise to find the moat so shallow: perhaps one of the changes of coast-level, which are a feature of this part of the island, may have raised ground that was once lower. This theory would involve (1) a subsidence after the Late Bronze Age, (2) a tilt upwards after the Genoese period.

South of the moat we have once more the natural level of the ground, which in this place is over 4 metres.

Here, four trenches, A, C, J, and P, were dug, of which one, P, is illustrated in Fig. 1. In every stratum the earth is more or less sandy, a fact which may account for the 'percolation' of sherds: for instance, a green glazed Byzantine sherd and a black glazed Hellenistic sherd were found in the deposit, which, to judge from proportions, seems to belong to the Proto-geometric period, and a Mycenaean kylix stem worked upwards into the stratum containing archaic bucchero.

Apart from the sand, our chief obstacle was water. Unfortunately, the subsidence of the coast, to which I have already alluded, has brought the earliest habitation layers below sea-level. Fine walls belonging to the Lesbian Red Ware period and associated with Mycenaean imports emerge to a height of .45 m. only out of the water and continue downwards: excellent Red Ware sherds and Mycenaean sherds can be picked out of the water to a depth of .30 m. below sea-level, after which excavation becomes impossible.

The pottery which marks the various periods is as follows: Mycenaean imports; Lesbian Red Ware<sup>1</sup>; Grey Wares<sup>2</sup> (which have an earlier phase

<sup>1</sup> See above, pp. 157-162.

<sup>2</sup> See *J.H.S.* lli, pp. 1 ff. It is uncertain when Grey Wares first started on the island.

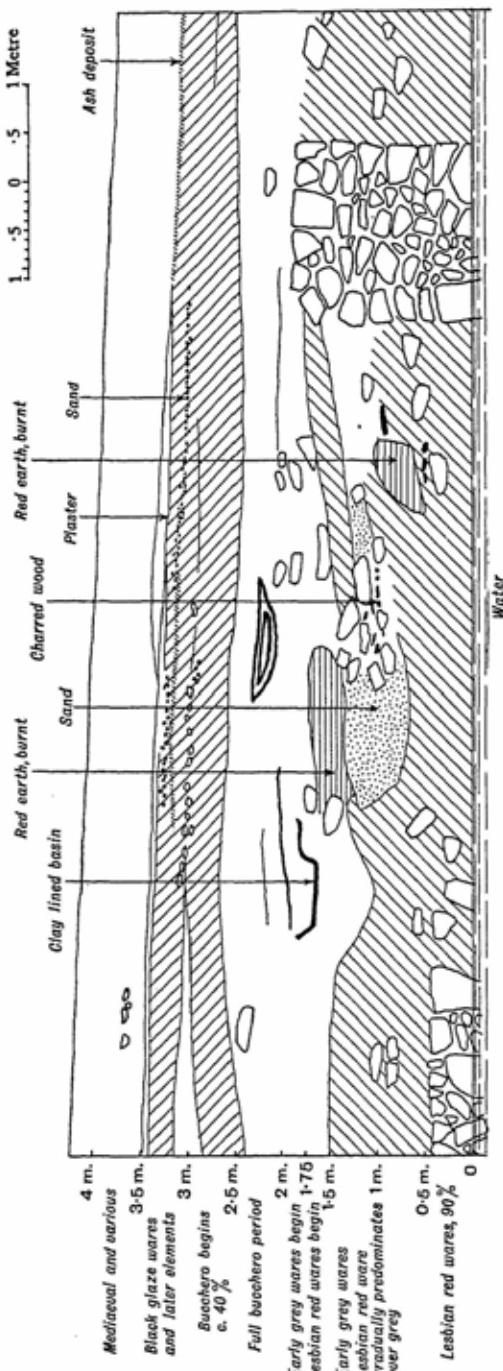


FIG. I.—TRENCH P, SECTION.

in the Late Bronze Age, and develop into archaic bucchero); Black Glazed Wares of the fourth century and after, and mediaeval wares. Other classes of pottery, especially local products of the Geometric period, were present in small quantities and should be discussed in next year's report.<sup>1</sup>

Space allows a description of one trench only, and I have selected P (Fig. 1), supplementing its evidence from that of A, C and J.

In P the upper stratum, .75 to .50 m. thick, contained mediaeval wares thoroughly mixed with Hellenistic, a little bucchero and some prehistoric. Next comes a stratum where black glazed wares predominated: this stratum was particularly well defined in the most southerly trench, A, where a number of fourth and third century terracottas were found.

Bucchero definitely asserts itself at a level of 2.75 m. in P, and after 2.50 is present in large quantities (60 per cent. good bucchero, 30 per cent. coarse bucchero and coarse red domestic, 10 per cent. black glaze intruders, two Mycenaean sherds). At 2-1.75 appeared the inscribed sixth-century kantharos (Pl. XXVIII, No. 3a, 3b, p. 178). The rest of the bucchero belongs to both the seventh and sixth centuries and includes deinos rims, pedestal-feet (cf. *J.H.S.* lii, Pl. 1, No. 3), and a rim of a bowl with a handle rising from it (cf. *ibid.*, Fig. 3, No. 8). There are also a few fragments with wavy bands (*ibid.*, p. 5).

Below 1.75 m. it becomes possible to distinguish earlier forms among the Grey Wares: carinated profiles are typical of this stage, and handles plastered against the sides of the vase like S.S. 3137 (from Troy VI). At the same time, Lesbian Red Wares begin. The massive walls which rise to a height of 2.0 or 1.90 m. above sea-level must belong to the same stratum, which dips slightly towards the north. Though the proportion of Lesbian Red Ware increases rapidly, the Grey Wares include some distinguished specimens: to the red class belong the vases on Pl. XXV, Nos. 6 and 7; to the grey, a number of knobbed attachments in the shape of horns<sup>2</sup> (Fig. 2), a krater in the Minyan tradition (Fig. 3), part of another krater and a fragmentary stirrup vase. All these grey examples come from C, though P was not unproductive.

<sup>1</sup> I have also postponed discussing the mediaeval wares, and the red domestic wares of the classical periods, which form an interesting series. The main groups of pottery can only be dealt with very briefly here, though much could be added to what was said about Grey Wares in *J.H.S.* lii, pp. 1 ff.

<sup>2</sup> Cf. S.S. 3251-3276 and 3317 from Troy.

At *ca.* ·50 m. above sea-level we find, over all the area explored, a stratum characterised by an overwhelming proportion of Red Wares, and by the presence of well-built walls about ·90 m. thick. From this stratum in C comes a well-polished jug (Pl. XXVIII, No. 1); from P, a cup and ladle (Pl. XXV, Nos. 8 and 9) and the copy of a Mycenaean kylix (Pl.



FIG. 2.—HORN IN GREY WARE.

FIG. 3.—KRATER IN THE MINYAN TRADITION.

XXVIII, No. 2). These vases belong to what we have called the second or later phase (B) at Thermi. Two magnificent pithoi found in P must be contemporary with the walls: the larger, decorated with bosses and horizontal bands, is seen against a background of water in Pl. XXVII, 2.

The fragments of Mycenaean pottery, found here as elsewhere on the site,<sup>1</sup> are less useful for dating than one would expect. In the first place,

<sup>1</sup> They occurred in the trenches O and A.F., and on the Acropolis behind the wall mentioned on p. 172, but not on the hill where the tombs were.

many are too small to shew distinctive decoration<sup>1</sup>: in the second place, they seem to have distributed themselves too impartially. For instance, the examples from P occurred as follows: below sea-level, one; 0-25 m. four, including the fragment of a kylix; .25-.75 m., one doubtful piece; .75-1.0 m., seven; 1.0-1.25 m., none; 1.25-1.50 m., one certain, two doubtful; 1.50-1.75 m., six; 1.75-2.25 m., none; 2.25-2.50 m., three. The appearance of water-worn sherds at 1.50-1.25 m. must be connected with a deposit of sand, probably introduced artificially.<sup>2</sup>

The trials further inland, nearer the foot of the Acropolis, produced Grey Wares of peculiar excellence, including a variety decorated with small impressed triangles and incised key pattern. The most easterly trial trench, O, contained Lesbian Red Ware in its lowest half-metre; in the most westerly trench, A.F., Red Ware was represented, but in small quantities.

The chief features of A.F. besides its fine bucchero are the three large amphorae, described on p. 177 (Pl. XXVII, No. 6).

On Pl. XXVII, No. 1 is an illustration of the wall A.C., close to the foot of the Acropolis. This wall, .80 m. high, shews a pronounced curve and is built of polygonal masonry, not in the perfect form represented on the Acropolis (see below), but with small stones used here and there to fill gaps. In style it comes nearest to the late seventh-century terrace belonging to the earliest Telesterion at Eleusis.<sup>3</sup> Like the Eleusinian wall, it shews already those curved junctions between stone and stone which authorities are agreed in connecting with Aristotle's *Λεοβία οἰκοδομή*.<sup>4</sup>

The pottery found above the level of the foundations and in the stratum .25 m. below the present top of the wall consists of (a) bucchero and (b) imports: three Protocorinthian, one indefinite East Greek, two possible Geometric, with brown glaze on buff. The bucchero fragments include shapes which seem to belong to the seventh century: fragments of kantharoi, of pedestal-feet, of deinoi, also the rolled handle-

<sup>1</sup> The most we can say is that such motives as can be distinguished seem early rather than late, and that the imports may go back to 1370 B.C.

<sup>2</sup> In J, however, further west, nearly all the sherds in the lower strata were water-worn.

<sup>3</sup> Noack, *Eleusis*, pp. 11, 16; Pl. 20 a.

<sup>4</sup> Aristotle, *'Ηθικὰ Νικοπάχεια*, E. 1137 b, 30. Noack, *op. cit.*, pp. 16, 17. Weickert, *Das Lesbische Kymation*, pp. 8 ff.

attachment of a (?) hydria. The apsidal building will, it is hoped, be uncovered next season.

#### THE ACROPOLIS.

On the north slope we searched in vain for the fortification walls marked B in Koldewey's map.<sup>1</sup> The soil is usually shallow: occasionally small areas attain a depth of 2·0–2·5 m., more often the rock is just below the surface. In the deeper areas were remains of houses proved by their pottery to belong to the third century B.C. or later. Koldewey's fortifications were inferred from cuttings in the rock and blocks *in situ*, but the blocks have vanished and the owners of the few huts near the site, while confessing that they had used ancient stones in building, shewed us a nearer and more appropriate place from which material had been obtained.

On the south, east and west are a number of short lengths of wall, usually one course high and one course thick, but made of large stones. These have now been mapped, and may be the remains of a terrace or fortification.

The most imposing structure, on the north, is a stretch of polygonal wall just over 13 m. in length and preserved in part to a height of 1·5 m. The lowest course projects very slightly (10 to 15 cm.). The masonry is illustrated on Pl. XXVII, No. 3, and Fig. 4 shews the excellent curved outlines of the stones,<sup>2</sup> which display a far more advanced technique than anything in A.C.

At a later period this wall was extended on the east by a wall of regular masonry 6 m. long, the end stones of which were fitted into cuttings in the polygonal blocks (Pl. XXVII, No. 3 and Fig. 4). At the same time, apparently, a tower or buttress, 1·20 m. wide, was built in front of the west end of the polygonal wall. Behind the whole stretch of polygonal and regular masonry, a filling of stone supplements the natural rise of the rock, and we tested the neighbourhood for traces of any temple or public building. We found nothing better than a short wall higher up the hill composed of very large blocks, and, beyond this, a fragmentary wall with a number of Mycenaean sherds on virgin soil to the south of it.

No stratified pottery was found in connection with the polygonal wall and its continuation. Two main periods, however, were represented—(1) the archaic period, to which belong many shapeless bucchero frag-

<sup>1</sup> Koldewey, *op. cit.*, Pl. 6.

<sup>2</sup> For this class of polygonal wall, see p. 171.

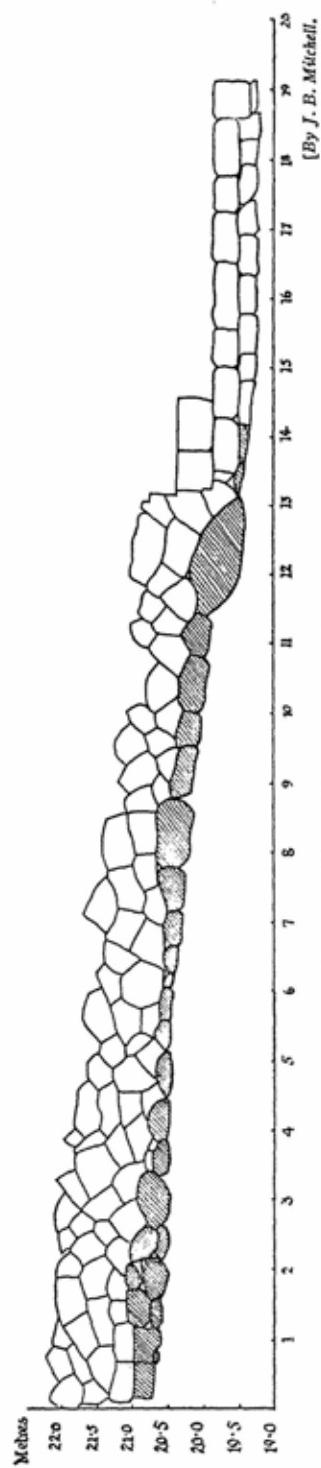


FIG. 4.—WALL, NORTH OF THE ACROPOLIS.

ments; (2) the fourth and third centuries B.C., to which belong black glaze sherds occasionally decorated with white. It seems, therefore, permissible to suggest that the polygonal wall is sixth century—the masonry can scarcely be earlier—and the extension fourth century.

Among various small finds, two only were of interest. One, a votive bronze bell, was discovered south-west of the polygonal wall; the other, a fragmentary terracotta head of a bearded warrior, in mid-sixth century style, came from outside the extension.

#### THE TOMBS.

These consisted of stone sarcophagi, clay coffins, and jars, tucked away in hollows between outcropping limestone rocks on the hill south-east of the Acropolis, some 150 m. east of the place where Koldewey marks *Antike Gräber*. All the sarcophagi and coffins had been opened except V.P. described below. My account is a preliminary one dealing only with the more satisfactory and typical examples, and its somewhat premature appearance is due to the need for publishing as soon as possible the interesting bucchero vases found in this area.

*Group V.C.* Pl. XXVII, No. 5. About .25 m. below the surface, we uncovered a group of vases oriented roughly east and west, consisting of an amphora with twisted handle, two ovoid jars and a base. In one of the jars were very small fragments of carbonised wood and bone, and all vessels were filled with incredibly hard earth. The amphora was at the east end and contained the broken jug, Fig. 5, No. 5, the spouted trefoil-mouthed jug, Fig. 5, No. 2, and a miniature buff amphora. Inside the most westerly pithos was the cup, Fig. 5, No. 8, and two bronze fibulae much corroded. Of these, one belongs to the East Greek type illustrated and discussed in *B.S.A.* xxviii, p. 97, No. 3.<sup>1</sup> It originated in Asia Minor in the Geometric period and survived into the Early Archaic period. The other, though very fragmentary, appears to belong to Blinkenberg's type IV, or island type, with knob and high narrow catch-plate.<sup>2</sup> Close to the group was a fine bucchero phiale, and under one of the pithoi, the kantharos, Fig. 5, No. 3.

*Group V.D.* This lay south-east of V.C. It contained two slab cist

<sup>1</sup> Blinkenberg, *Fibules grecques et orientales*, pp. 212, 213, type XII.

<sup>2</sup> *Idem, op. cit.*, pp. 96-99.

graves<sup>1</sup> protected on two sides by a wall of dressed blocks now one course high, and on the other two sides by rocks. It was, in fact, a kind of *temenos*. Only the stone floors and part of the walls of the tombs were preserved, at a depth of .15 to .20 m. below the surface.

On the north, outside the wall, were two clay coffins,<sup>2</sup> the western one oriented roughly east to west, the eastern one, north to south. The former was empty, but the latter, evidently that of a child, contained a



FIG. 5.—VASES FROM TOMBS.

couple of female terracotta heads too worn for accurate dating (late fifth-fourth century?) and part of a board-like figurine.

Among large stones south of the cist graves was a big jar, shaped like a deinos. It contained the feeding cup (Fig. 6, b) and an ovoid Proto-corinthian aryballos (Fig. 6, e). Beneath the jar was the beautiful bucchero kantharos (Pl. XXVII, No. 4, and Fig. 5, No. 4). A few bones were separated from the jar by two large stones.

In the southern end of V.D., beyond the most southerly cist grave,

<sup>1</sup> The measurements were as follows:—Southern tomb: remaining length 1.99 m., width .64 m., present depth .24 m. Northern tomb: length 2.10 m., breadth .86 m., present depth .33 m.

<sup>2</sup> The measurements of the eastern coffin were as follows:—length .96 m., breadth S. end .34 m., breadth N. end .37 m., present depth .20 m. Western clay coffin, length 1.52 m., width .58 m., present depth .14 m.

were several vases; viz. the skyphos (Fig. 6, *a*), a small coarse red jug (Fig. 6, *c*), and five Attic black-figure lekythoi belonging to the late sixth and early fifth centuries. Not far from these we uncovered the fragmentary head of a bronze horse (Geometric period) and bits of three fibulae much corroded. One is of the East Greek type discussed above, one of the type with knob and apparently high catch-plate, also mentioned in connection with V.C., and the third indistinguishable. Over a dozen 'spindle whorls' lay together close to the *temenos* wall, and with them were two gouty-looking terracotta feet, neatly rounded off half-way up the leg and pierced as though for suspension.

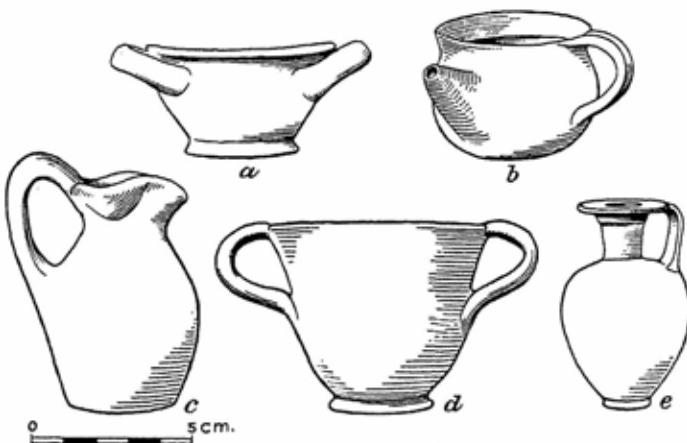


FIG. 6.—VASES FROM TOMBS.

*V.P.* An unopened cist grave west of the group described above.<sup>1</sup> It was roofed with three stones and lay approximately east and west. Inside, it was empty, to a depth of .35 m. : then came a level floor of dust on which lay a squat red-figure aryballos (second half fifth century). The neck was broken and lay at the same level some distance away. At a depth of .44 m. below the top of the tomb was a floor of pebbles which did not extend over the easternmost portion. Neither in earth nor pebbles was any trace of bone or ash.

*V.N.* This was a large jar (broken) containing traces of ash amongst the earth. Beneath it lay the bucchero vases 1, 6, 7 and 9 in Fig. 5.

The absence on this part of the site of mediaeval and prehistoric pottery is interesting. Still more so is the presence, here only, of an

<sup>1</sup> Internal measurements :—length 1.70 m. : breadth at east end .50 m. : breadth at west end .46 m. : depth .55—.49 m.

element that can definitely be attributed to the late sixth and early fifth centuries—the Attic black-figure lekythoi.

The above account is largely indebted to the notes of Mr. Hutchinson and Mr. Brock who superintended the evacuation of this area.

POTTERY ILLUSTRATED ON PLS. XXV, XXVII, AND XXVIII  
AND IN FIGS. 5 AND 6.

A detailed description of the pottery must be reserved till further excavation and study have made the various series more complete. The following notes are intended as an explanation of the illustrations, while a fuller account of the context in which each vase was found has appeared in the foregoing pages.

*Pl. XXV, No. 6.* Bowl, of red ware slipped and polished; ht. ·083 m. From P, 1·75 m.

*Pl. XXV, No. 7.* Cup, of red ware with traces of polish; ht. ·092 m. From P, at 1·60 m. For discussion of the type see p. 161.

*Pl. XXV, No. 8.* Cup (handle missing), of red ware slipped and polished; ht. ·082 m. From P, north end, ·15 below sea-level.

*Pl. XXV, No. 9.* Ladle, of red ware slipped and polished, ht. ·045 m. From P, north end, ·50–·25 m.

*Pl. XXVII, No. 4.* A bucchero kantharos of dark grey clay; ·092 m. high. It was found in V.D. under the burial urn that contained an ovoid Protocorinthian aryballos (725–650 B.C.). Round the body of No. 4 are three impressed lines and a band of the wavy lines discussed in *J.H.S.* lii, p. 5. On each side of the body and on each handle are imitation nail-heads, a common feature on Dr. Böhlau's bucchero from Larissa. Style and provenance point to the eighth century B.C.

*Pl. XVII, No. 6.* The three amphorae mentioned on p. 171 (from A.F., bases at 1·22 m.), one of which is partly concealed by the wall. This vase is grey and unpolished: the other two are red and unpolished (ht. ·55 and ·67 m.), and the larger has a small, incised panel on its shoulder containing four marks shaped like a reversed modern Greek *lambda*, and looking like a potter's mark.

*Pl. XXVIII, No. 1.* Jug, of fine red polished ware; ht. ·235 m. From C, at ·25–·0 m. This shape does not occur at Thermi, but it is common at Troy in the buff and grey wares that there take the place of red. Cf. S.S. 3049.

*Pl. XXVIII, No. 2.* Imitation in finely polished red ware of a Mycenaean kylix; ht. as restored .183 m. From the north end of P, between .50 and .25 m.

*Pl. XXVIII, Nos. 3 and 4.* Kantharos in lightish grey ware, highly polished; ht. .165 m. From P, 2-1.75 m. Both handles have been restored on the model of countless fragmentary kantharos handles and the complete but more conventional example from V.C. (Fig. 5). The oval shape of the mouth appears to be intentional, not the result of bad firing. The inscription must belong to the sixth century, but the letters are not sufficiently distinctive, and there is not enough evidence from Lesbos to date it more exactly. Comparing it with the inscriptions on the bucchero from Naukratis,<sup>1</sup> we find that the forms correspond, except that our *sigma* has three strokes, theirs four. The coins of Methymna made just after 500 B.C. also have a four-stroke *sigma*. It should be noted that the Naukratite inscriptions in question include no *chi*. The name Eumachos may be that of dedicatory or owner, probably the latter, since no sanctuary has been identified.<sup>2</sup> Above the inscription is an incised cross.

The vases in Fig. 5 (where the kantharos from Pl. XXVII reappears as No. 4) have been sufficiently described in connection with the tombs. All are of grey ware, with the surface affected in varying degrees by the bad condition of the soil. For dating, style is our chief criterion, except in the case of No. 4.

Of the vases in Fig. 6, *a*, *d* and *e* are certainly, *b* and *c* probably, imports. Unfortunately they have lost nearly all the decoration that they may have once possessed. The one marked *a*, from V.D., south-west end, is proved by parallels in Samos to be East Greek: *d*, from V.P., is also East Greek and shews traces of white slip and black glaze; both are made of deep buff clay.<sup>3</sup> *e* is a Protocorinthian aryballos of a type which can be dated to the first half of the seventh century. It was found inside the burial area in V.D., and with it was the feeding cup, *b*, of buff clay with traces of reddish glaze. There remains the trefoil-mouthed jug *c*, of coarse red clay with patches of white slip, which was found near the fibulae at the south end of V.D.

W. LAMB.

<sup>1</sup> Gardner, *Naukratis*, II, pp. 47, 48, 65, 66, Pl. xxi.

<sup>2</sup> Cf. Kretschmer, *Die Griechischen Vaseninschriften*, p. 4, note 2.

<sup>3</sup> For *a*, cf. Technau, *Ath. Mitt.*, liv, p. 33, Fig. 3, a one-handled cup. For *d*, cf. C.V.A. *Oxford* ii, II D, Pl. I. 18, and p. 76. I am indebted to Mr. Payne for both parallels.

## A GUIDE TO THE STRATIGRAPHICAL MUSEUM IN THE PALACE AT KNOSSOS.

A guide which may be of use to students has been completed and published separately. It is obtainable (price 1s.) on application to the Secretary, British School at Athens, 50, Bedford Square, London, W.C.1. It is proposed to issue from time to time a bulletin giving details of the dating of the sherds as the work is completed. This bulletin will be sent to every possessor of the guide at the end of each session of the School.

J. D. S. PENDLEBURY.

Sir Arthur Evans has supplied the following foreword to the guide :—

"The plan of gradually creating a permanent 'Reference Museum' within the Palace was first initiated by me in 1905, the opportunity being offered for it by the roofing over not only of the 'Room of the Throne' itself, leaving an available loft under the roof above, but of the corridors and chambers by which it was backed and surrounded. These were at that time fitted for shelves, 'the baskets from the various floors and levels being carefully arranged on these' (see Report 1905) 'and labelled by Dr. Mackenzie.'

In 1913, when Dr. Mackenzie had undertaken the Directorship of the Palestine Exploration Fund and the stratigraphical Museum had to be dealt with by me personally, a special series of exploratory researches was carried out, some summary references to which, amounting to about a hundred, were written by me on wooden labels. It had indeed already become necessary to substitute these for paper owing to the ravages of the small insects known to the Cretans as *φαρκκιζ* or 'little fishes.'

This arrangement of shelves was improved when the Throne Room was roofed over on a better system and the baskets themselves were gradually replaced by open wooden boxes.

A small workroom was also fitted out by me under the Central Staircase of the West Palace section.

About the same time the restoration of upper floors in the Domestic Quarter provided an additional space in the so-called 'Lair,' which was now fitted out in the same way. The roofing over of the 'Shrine' and adjoining Chamber in the 'Little Palace' provided in its turn an extension of the 'Museum' for the benefit of that quarter, and as part of the plan for the restoration of the 'Grand Staircase' there in 1930-31, a new compartment was built and fitted up under its second landing.

In 1922 Dr. Mackenzie was able to resume his position as my assistant at Knossos, but unfortunately, owing to his continued ill-health, little progress could be made with the ' Palace Museum.' It is therefore a subject of sincere congratulation that the large arrears have now been successfully dealt with on an improved system by Mr. Pendlebury. The materials indeed have been greatly augmented by the results of the campaigns of 1930 and 1931."

## ANNUAL MEETING OF SUBSCRIBERS.

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THE Annual Meeting of Subscribers to the School was held in the Rooms of the Society of Antiquaries, Burlington House, on Tuesday, November 3rd, 1931, Sir FREDERIC KENYON in the Chair.

The Chairman of the Managing Committee, Mr. GEORGE A. MACMILLAN, presented on their behalf the following Report for the Session 1930-1931 :—

**Miss C. A. Hutton.**—It is with the utmost regret that the Committee have to report the death on October 6 of their colleague, Miss Amy Hutton, who had served on the Committee since 1909, and had acted as Joint-Editor of the *Annual* for twenty years, from 1906 to 1926. Throughout this long period Miss Hutton's devotion to the interests of the School had been unfailing. She rarely missed a meeting of the Committee, and her invariable courtesy, and her grasp of administrative detail will be sorely missed in its deliberations.

The Committee wish to call particular attention to the number and variety of the enterprises undertaken by the School during the session 1930-1931. Successful excavations at no fewer than seven sites are reported below, and the number of Students and Associates whose researches are recorded must also be regarded as highly satisfactory.

**The Director** (Mr. H. G. G. Payne) lectured at the Annual Meeting, and at Cambridge, on the School's excavations at Perachora, and reached Athens, after a short stay in Italy, on November 22. In December he spent a fortnight at Perachora; in March a week in Phokis and North Boeotia; and subsequently several days at Knossos, where, with the help of the Curator, he made various arrangements in connexion with the School property. During the rest of the winter and spring he was continuously occupied in the National Museum at Athens, working on the finds from Perachora (see below). On

February 26 he lectured at an Open Meeting at the School, and at various times gave informal instruction to students. On April 15 he left Athens to resume the excavations at Perachora and remained in charge of them till the campaign closed on June 7. With the exception of a week taken for a journey in Arcadia, he was in Athens at work on the year's finds until he left Greece (July 15). On his return journey he again visited sites and museums in Italy.

**The Assistant Director** (Mr. W. A. Heurtley) spent the period August 16 to October 14, 1930, directing Sir Rennell Rodd's excavations in Ithaca (see below). He was in Athens, save visits to Chaeroneia and Salonika, until March 25, 1931, when he left to resume his excavations in Macedonia. While in Athens he prepared reports on Saratse and Marmariane for the *Annual*, on Servia for the *Antiquaries' Journal*, and on Ithaca for a lecture at Cambridge. On March 23 he lectured on the Ithaca excavations in the Hall of the Greek Archaeological Society. From March 30 to April 17 he conducted excavations at Armenochori (see below); subsequently, in Athens, he prepared a paper on Armenochori to be read at the London meeting of the British Association; later, assisted Mr. T. C. Skeat in making a survey of Marmariane. On August 4 he left Athens to resume the excavations at Ithaca.

**The Curator of Knossos** (Mr. Pendlebury) spent a month in Athens and travelling in Greece before reaching Knossos in the middle of March. During his stay of over three months at Knossos he completed the very considerable task of arranging the sherd-collection at the Palace (2500 boxes) and entering their provenances on the plan; assisted Sir Arthur Evans in superintending the excavations (see below) and made a number of arrangements in connexion with the property, such as the conversion of the basement beside the Taverna into bedrooms, the purchase of the site of the newly-discovered Temple-tomb. As before, Mrs. Pendlebury gave valuable assistance throughout the season's work.

**Students.**—Mr. Joseph Addison, M.C., A.R.I.B.A., Headmaster of the School of Architecture at Leeds, and holder of the R.I.B.A. Bursary at the School, reached Athens on April 13, after spending a fortnight working in Sicily. While in Greece he studied ancient architecture, and visited Eleusis, Aegina and Corinth. On the return journey he studied in museums at Vienna, Dresden, and Berlin.

Mr. R. P. Austin, B.A., Lecturer in Classics in the University of Birmingham, came to Athens with Mrs. Austin at the end of March. After spending a few days at the School they went to Haliartos and continued the excavations begun there in 1926 (see below). They left Greece at the end of April.

Mr. R. D. Barnett, B.A., Corpus Christi College, Cambridge, holder of the School studentship, reached Greece early in November and stayed till the middle of July. He devoted the first part of his time in Greece to ancient

architecture, but later decided to take up the study of the archaeology of Eastern Greece. He visited a number of places in Central Greece and the Peloponnese, as well as some of the Cyclades, and for the first three weeks assisted at the excavations at Perachora. In June he visited Constantinople.

Miss S. Benton, M.A., Girton College, Cambridge, was in Greece from February to October, with the exception of a short visit to Jugoslavia. She took part in Mr. W. A. Heurtley's excavation in Macedonia, and visited Presba and Ochrid, where she found two prehistoric sites. After working in Athens on the finds from Ithaca she made a prolonged stay in the Ionian islands, visiting Zante, Cephalonia, Astabos, Kalamos, Kastos, Arkoudi, Meganisi and Ithaca. She reports having found 13 unrecorded Bronze Age sites, as well as Neolithic and Hellenic sites.

Mr. J. K. Brock, B.A., Trinity College, Cambridge, arrived in Athens early in March and spent part of his first six weeks in general study of museums, etc., part in a special study of prehistoric archaeology, particularly that of the Troad. After visiting Aegina and the Peloponnese, he spent six weeks at Mytilene, assisting at Miss Lamb's excavations at Thermi.

Mr. T. Burton Brown, B.A., Emmanuel College, Cambridge, arrived in Athens early in December, visited Crete and Cyprus in January, and spent February and March with an expedition excavating at Jericho. He spent April in Syria and Cyprus, where he reports having found two early Bronze Age, and one Geometric, sites. In June he visited the site of Alishar in Anatolia, before and after which he spent short periods in Athens.

Miss M. Hartley, B.A., Girton College, Cambridge, spent three months in Paris, Berlin, Munich and Rome, and reached Greece (with the Old Girtonians' studentship and a grant from the Craven Fund of Cambridge University) in February. She specialised in early Greek art in Crete, and visited a number of museums and sites in Central and Southern Greece. She was present for a short time at the Perachora excavations and left Greece in the middle of May. Miss Hartley has since been appointed Assistant-Lecturer in Classics at the University of Liverpool.

Miss M. Hirst, M.A., Newnham College, Cambridge, Lecturer in Classics in the University of Birmingham, was in Greece from January 19 to April 6, after spending some time at the British School at Rome. She devoted the first part of her time to the museums and monuments of Athens, and later travelled widely in Central and Southern Greece, making a speciality of classical topography.

Mr. R. H. Jenkins, B.A., Emmanuel College, Cambridge, holder of the Prendergast Studentship and of a Research Scholarship from Emmanuel College, spent the period from January 21 to June 5 in Greece. He was occupied with the study of the prehistory of the N.W. Peloponnese, in particular of Olympia.

He assisted at Mr. W. A. Heurtley's excavations in Macedonia and, for part of their duration, at the excavations at Perachora; he also visited various places in the Peloponnese and several islands.

Miss W. Lamb, M.A., Newnham College, Cambridge, Keeper of the Classical Collections in the Fitzwilliam Museum, spent two months in Athens in the autumn of 1930 working on the finds from Thermi, and prepared a report for publication. She returned to Greece in the middle of March 1931, and from March 21 to June 11 continued the excavations at Thermi; she then went to Antissa and made a trial excavation with a view to obtaining material of the Mycenaean and archaic periods (see below). After leaving Mytilene she spent a fortnight in Athens working on the year's finds.

Miss A. Lindsell, M.A., Newnham College, Cambridge, spent the greater part of the winter, and the spring and early summer, in Greece. She devoted herself to the study of botany in Greece, with special reference to the botanical material contained in ancient art and literature. She made a number of expeditions outside Athens, including a visit to the Villa Ariadne at Knossos.

Miss J. Mathews, M.A., Toronto, spent the early spring in Greece and visited various sites with a view to obtaining a general knowledge of the antiquities of the country.

Mr. T. C. Skeat, B.A., Christ's College, Cambridge, holder of the Walston Studentship, assisted at the excavations in Ithaca in September and October 1930. In the winter he worked in Athens on Proto-Geometric pottery, and collaborated with Mr. Heurtley in a study of the Proto-Geometric vases from Marmariene; he also made expeditions to the Islands and assisted the Director for a week at Perachora in December. He returned to England in April, but came back to spend several weeks at the excavations at Perachora. In Athens also he gave valuable help with the finds from Perachora. He visited Marmariene in June and, with Mr. Heurtley, made a plan of the site; he then returned to take up his duties in the Department of Manuscripts at the British Museum.

Capt. H. R. Walker spent some time in Greece in the winter and early spring studying Byzantine archaeology and literature.

Miss B. Wilkinson, B.A., St. Hilda's College, Oxford, was in Greece for three months in the early part of 1931. She devoted herself to the study of Greek sculpture and vase-painting, concentrating on the archaic period, with a view to offering these subjects in the Oxford Archaeological Diploma. She visited the principal local museums.

**Associates.**—Mr. D. Dickson, B.A., Edinburgh, spent six weeks in Greece in the spring. He spent part of this time working in the museums of Athens; in the remainder he travelled to a number of sites in Central Greece and the Peloponnese.

Miss G. R. Levy, M.A., London, stayed at the School during the month of October on her way to join the Iraq Expedition of the Oriental Institute of the University of Chicago.

Miss I. Monro, student of the British School at Rome, stayed at the Hostel for some time in the spring.

Among others who stayed at the School were Mr. A. Blakeway, Prof. R. M. Dawkins, Mr. E. J. Forsdyke, Dr. and Mrs. Frankfort, Mr. R. W. Hutchinson, Mr. E. M. G. Little, Mr. and Mrs. Geoffrey Mead, Miss N. Six, and Mr. E. M. W. Tillyard.

**Open Meetings.**—Two open meetings were held. On February 26 the Director gave an account of the previous season's work at Perachora. On March 26 Sir Arthur Evans spoke on 'Recent Discoveries at Knossos.'

**Publications.**—Vol. XXIX of the *Annual* was published in January of this year.

**Excavations** were conducted at the following sites: the temple of Hera Akraia, Perachora, by the Director; at Armenochori in Macedonia, by Mr. W. A. Heurtley; at Thermi and Antissa in Mytilene, by Miss Lamb; at Haliartos by Mr. Austin; at Knossos by Sir Arthur Evans; in Ithaca by Mr. W. A. Heurtley.

#### The School's Excavation at Perachora

(Report of the Director.)

At the end of the first season's work at Perachora it seemed not improbable that one more campaign might suffice to complete the actual work of excavation; a second season has, however, shown that the site, small as it is, is far from being exhausted, and the general impression which it makes after two years' excavation is that there may be even more to do than has hitherto been done.

During the first weeks attention was concentrated on the area in which the principal finds had been made last year—the area, that is, which votive inscriptions proved to be the neighbourhood of the temple of Hera, and in which there is a rectangular complex of walls of various dates. From the upper part of this area, where the ground level begins to be relatively horizontal, a great quantity of pottery was again obtained: a number of bronze ornaments, as well as several fine ivories were also found here. Several fragments of pottery inscribed with the name of Hera were again found. The most important find made here was a bronze bull of the sixth century, dedicated by one Naumachos to 'Hera Limenia,' a find of singular interest, not simply as giving an alternative epithet for the goddess of the place, but also as showing that the harbour was an important feature of the ancient town. Among the ivories a circular seal with a stag, certainly one of the finest existing seals of the kind, a plaque with

Artemis, and a group of a lion devouring a doe (identical in style and type with examples from Sparta) are the most remarkable.

At the same time a pit opened last year on the slope some 20 yards below this upper area was systematically enlarged. The objects found here were also part of the votive treasure of the temple; they had been carried down the hill from the upper area by successive rains, and were found in a pit over three metres deep, often embedded in well-defined strata of pebbles and gravel. Before they reached the hollow where they were found they had evidently lain in confusion in the upper area, which accounts for the fact that they were not chronologically stratified. The most remarkable of the finds from this hollow were a large collection of bronze vases, a magnificent bronze lion, and an ivory head of foreign workmanship: these were accompanied, however, by the usual mass of vase-fragments, terracotta figurines, and scarabs. Of the bronze vases about fifty were phialai, usually about 8-9 ins. in diameter: the majority of these were crushed almost out of recognition, but there is quite a large collection of well-preserved examples, some of which are finely decorated; there are also a fine and well-preserved archaic oinochoe, with silvered studs at the handle, two bronze skyphoi, and a large hemispherical cup with two handles, a hitherto unknown shape. The lion referred to above is Proto-Corinthian work of about 650 B.C.; it is some six inches long, perfectly preserved, and apparently part of a tripod. The ivory head is probably Phoenician: in all but style it affords a curiously close parallel to the Greek ivory head found last year, but is in perfect preservation and is carved with even greater precision. An enormous number of other votives were found here and in the intervening area on the upper part of the slope: of these the most striking is a bronze sphinx of the early sixth century which is of exceptionally attractive style.

The catalogue of imported objects has been greatly increased: there is a series of about a dozen Rhodian or Samian terracottas; among the imported vase-fragments the most notable are those of Etruscan *bucchero*, which is now represented in considerable quantities. About 180 Egyptian objects (scarabs, beads, and amulets) were found this year: the total from this site, about 250, is far greater than that from any site in Greece save Rhodes.

As yet no trace of the earliest temple has been found, but a stretch of fifth-century (?) wall in the upper complex of walls may have some connection with the temple of that period. In the immediate neighbourhood of this wall the pottery-deposit shows some signs of being chronologically stratified, though this will only be seen with certainty next year. The finds this year show conclusively that a considerable area will have to be uncovered before we have exhausted the votives of the Heraeum.

The excavation of the lower part of the site, near the 'small harbour,' also made satisfactory progress. The first task was to continue clearing the immediate neighbourhood of the temple which was uncovered last year. As this was being done a number of marble roof-tiles, a pair of palmette-antefixes, and fragments of a statue of Island marble were found. Unfortunately the only

fragments found were part of a foot and small pieces of drapery. From these, however, it was clear that the statue had been a running figure, in the style of the later sixth century, and that it could only have been a Nike acroterion. One piece of the drapery of another figure was found.

Two other discoveries were made here: first a bronze mirror-handle in the shape of Aphrodite holding a fruit in her right hand, a work of the late sixth century, fairly well preserved; the second, part of the east wall of the temple, which gives us the length of the building, a little over 107 feet. The building thus becomes extraordinarily narrow in proportion to its length; but it has so many curious features that this need cause no very great surprise. The evidence for its date, about the third quarter of the sixth century, is now very strong. There was little time to continue the excavation of the large fifth-century Agora which stands next the temple. This must be done next year, when another highly important task must be undertaken, the clearing of a field immediately behind the Agora and the temple, which has long been buried beneath a mass of disintegrated rock, and which can scarcely fail to reveal some important part of the ancient city in a less damaged condition than any part hitherto excavated.

The following students took part in the excavation for various periods: Mr. R. D. Barnett, Miss M. Hartley, Mr. R. H. Jenkins, Mr. T. C. Skeat; the School is greatly indebted to two others who gave invaluable help: Mr. A. A. Blakeway of Corpus Christi College, Oxford, and Miss E. Haspels, member of the French School, who took a number of excellent photographs.

During December 1930 the Director, accompanied for part of the time by Mr. Skeat, conducted a search for tombs in the neighbourhood of the Heraeum and afterwards at Perachora and Asprokampos; at the Heraeum no trace of tombs nearer than the far (eastern) shore of the Vouliagmene (Lake Eschatiotis) was found, and at Perachora and Asprokampos nothing of importance came to light. It is evident that, as local tradition asserts, the cemeteries in these districts have been systematically plundered. There are, however, several places—notably at Asprokampos and at Skinos—which would repay investigation.

#### Armenochori

(Report of Mr. W. A. Heurtley.)

The site is in Western Macedonia at the village of Armenochori, 5 km. east of Florina. The valley (2000 ft. above sea-level) is at this point watered by numerous tributaries flowing northwards into the Tserna, on one of which the mound lies.

The excavation revealed a deposit with an average depth of two metres, containing two occupation levels. Both belong to the Early Macedonian Bronze Age, which is known from previous excavations of the School in other parts of Macedonia to have lasted from about 2500 to 2000 B.C.

The two levels represent the two phases of the culture of this period, the

lower level containing also traces of a still earlier indigenous Neolithic culture, the upper containing pottery which is a development of that in the lower. In the upper level were found some thirty mugs with a pair of high-swung ribbon handles each (the counterpart of the Early Helladic 'tankard'), some of exceptionally delicate fabric with fine polished yellow surface; some bored stone celts, stone saws, an anchor ornament, objects all proper to this civilisation, and a remarkable figurine. Except for the Neolithic sherds no obvious contacts with the northern cultural province were observed.

After the conclusion of the excavation, a short excursion was made into Jugoslavia, to the region between Bitolj and Prilep. Here, about 20 km. north of Bitolj, a settlement of the same Early Bronze Age people was identified.

It will be the duty of future exploration to discover the limits of this civilisation in that direction, as well as points of contact with the neighbouring civilisation immediately to the North, of which the dating is at present very insecure.

The excavators were the Assistant-Director, Mr. C. A. Ralegh Radford, Mr. G. A. D. Tait, and Mr. R. H. Jenkins and Miss S. Benton, students of the School.

#### Mytilene

(Report of Miss W. Lamb.)

Thermi.—Excavation at Thermi started on March 23 and finished on June 11. Miss Lamb was assisted by Mr. Hutchinson, Mr. Cuttle of Downing College, Cambridge, Miss Horner, Mr. Brock and Miss Six. Miss Jean Mitchell, Research Fellow of Newnham College, made the plans.

*Architecture.*—The uppermost town, No. V, has been cleared except for outlying houses beyond the wall. This wall was entered through two gateways, one on the west, one on the south. In the centre of the town is a single house of an imperfect *megaron* type which appears to have developed from the long narrow houses which are represented at all periods. The other four towns have been cleared sufficiently to enable an extensive area of each to be planned.

*Pottery.*—To the types already represented we may add several more sauceboats and one fragmentary face-urn. Special attention this year was devoted to the wheel-made 'red ware,' proved by its shapes to belong to the Troy VI and VII period, and represented in a finer form at Antissa. This was found outside the settlement on the south-west, and in two wells within the settlement: small cups and bowls, trefoil-mouthed jugs, and bridge-spouted jars may be specially mentioned.

*Small Finds.*—All the types found last year were represented, and some new ones added. The most interesting of these was a clay head with animal's ears and narrow eyes, entirely different from anything previously recorded. Though it comes from an apparently uncontaminated part of the lowest

stratum, it is made of hard red pottery unlike that used for other figurines. The examination of the stone implements by Professor Ktenas, of Athens University, shows that there was a steady import from Asia Minor, and a more spasmodic one from the Cyclades.

Antissa.—A trial excavation was begun on June 15 and finished on June 27. Trenches were dug in three areas : (i) the *Acropolis*, (ii) the rocky headland or *Castro*, (iii) the low *neck of land* joining the two.

(i) *The Acropolis*.—Many of the walls mapped by Koldewey on the north side have disappeared, while others on the south side were recorded by ourselves for the first time, including a fine piece of polygonal masonry. The pottery included Mycenaean (a small deposit behind one of the walls), red Troy VI, archaic *bucchero* and one indefinite East Greek sherd.

(ii) *The Castro*.—Little could be done here owing to the remains of Genoese and early Turkish walls. The wall which Koldewey conjectured to be Mycenaean was tested with negative results.

(iii) *The Neck*.—This was very productive. The upper strata yielded coarse wares presumably mediaeval, and Byzantine glazed wares : next came Hellenistic, including numerous terracottas. The archaic period was represented by grey Lesbian *bucchero* ; below this were grey wares similar in technique but decorated with *Wellenlinien* and associated with bossed, horn-like attachments. In a still lower stratum the grey pottery became definitely Minyan in shape : there were also 'red wares' and Mycenaean imports. Unfortunately, these lay below sea-level and the trenches soon became flooded with water. A few sherds and small finds like those from Thermi suggest that an Early Bronze Age settlement has been submerged owing to the subsidence of the coast in this part of the island. For the rest, the evidence so far points to the Lesbian *bucchero* having developed from Minyan : this will, it is hoped, be further investigated next year.

#### Haliartos

(Report of Mr. R. P. Austin.)

The site of the sanctuary found in 1926 on the acropolis of Haliartos was further excavated by Mr. R. P. Austin during the first three weeks of April. Mrs. Austin assisted in the work of supervision.

The objects of the excavation were to complete the plan of the temple itself and to identify the deity to whom it belonged, and to explore the associated buildings which had been partly uncovered in 1926, especially the rectangular building to the south. This work was successfully carried out. It was found that the eastern end of the temple had been completely destroyed. A mass of structural *poros*, including fragments of column drums, was found at a distance of eighteen metres from the west end, and it is assumed that this is the ruin of the east façade, and that the temple was about eighteen metres in

length. The disappearance of even the foundation blocks at this end of the building has been partly accounted for by the discovery that the temple was erected on ground which at that time sloped upward to the east; it is inferred that the later lowering of the high ground at the east end left the temple foundations exposed and that they were removed.

Adjacent to the north side of the existing temple foundations and running alongside of, and beyond, them in both directions at a lower level was found a structure about sixteen metres long and two metres wide composed of heavy squared blocks of *poros*. It is possible that this is a relic of the foundations of an earlier temple.

A votive deposit was found outside the western arc of the peribolos or temenos wall. It contained a mass of pottery, chiefly black glaze, including a number of sherds with incised inscriptions. Among these there was a dedication to Athena. It is indicated thereby that the temple itself belonged to Athena. This discovery has a twofold significance. Since none of the sacred buildings at Haliartos which Pausanias was able to identify by name was a temple of Athena, this find represents the recovery of a fact which had disappeared from general and even from local knowledge before Pausanias' time; secondly, it renders extremely probable the suggestion previously made by the excavator, that this sanctuary was among those other temples which Pausanias saw at Haliartos and set down in his record as being nameless and in a ruined condition.

The long rectangular building to the south of the temple was scarcely more than defined in outline in the 1926 excavation; but from the identity in style between its walls and those of the temenos (they are of dry-jointed 'polygonal' masonry) it had already been judged to be contemporary with the temple and to be a part of the sacred precinct. This inference has now been justified. Owing to the considerable length of the rectangular building—twenty-one metres—it was expected that partition walls would be found inside, and in fact it was fairly evident before excavation that there were some. These, however, all proved to be walls of ruined Byzantine houses. Two doorways were found in the east wall. In the interior, four circular stone bases were uncovered, about .75 m. in diameter, disposed at equal intervals along a centre-line running the long way of the building. They were evidently the bases of the pillars supporting the roof, and it is fairly certain that this rectangular building was a single long hall. Excavation outside its north wall revealed a well-preserved passage paved with limestone, leading into the precinct from the west and extending as far as the flight of steps found in 1926. This paved passage, therefore, gave access to the temple by way of the steps. As it also continues below the steps round the north-east angle of the long hall towards the first doorway of the latter it evidently gave access to the long hall as well, and the association between the long hall and the temple may be considered to be established. The exact purpose of the long hall remains undecided. The suggestion made previously was that it was used as a store-chamber in connexion with the temple, because the trenches around it produced many fragments

of large coarse pots. This year's excavation brought more of these to light, but nothing which has been interpreted as a more definite indication of the purpose of the building.

The smaller finds have not yet been fully studied. They include a quantity of pottery, mostly of the period from the sixth to the fourth century; fragments of two proxeny-decrees, one of which contains a grant of citizenship to the proxenos (this is rare); a few coins, terracottas, and bronze rings, and an excellent painted clay antefix.

#### Knossos

(Report of Sir Arthur Evans.)

Following up a clue supplied by the discovery of a massive gold signet-ring, there came to light beneath a bluff of the limestone hill-side south of Knossos a sepulchral monument of a new character, combining a mortuary chamber excavated in the rock with a sanctuary building. The basement part of this, which forms the approach to the tomb, was constructed in a cutting in the slope and culminated in a columnar shrine above ground. A curious confirmation was thus obtained of a very ancient Cretan tradition, preserved by Diodorus, that on the death by treachery of the last king of the name of Minos during his Sicilian expedition, his Cretan followers had raised him a magnificent monument of a dual character—a tomb hidden in the earth and a temple, dedicated to the Goddess, above. Apart from this striking confirmation of folk-memory as to the dual character of the sepulchres of the old priest-kings, the whole plan of the building and the relics found within proved to be of the highest religious and anthropological interest. Minos here stands in the older, matriarchal relation to the Goddess, instead of the God.

The lower entrance led through a pavilion, seemingly designed for memorial feasts, to a small paved area adapted for funeral sports, and overlooked by roof terraces. A doorway between two pylons gave access thence to a hall opening on a pillar crypt, a portal in the inner wall of which led into the rock-cut sepulchral chamber itself with a central pier and brilliantly lined with gypsum slabs and pilasters. The rock ceiling above, where visible between the huge rafters, had been painted a brilliant Egyptian blue, to convey to the dead a vision of the sky. Flowers in pots were placed outside the Temple Tomb in its earlier period of use.

From the hall a staircase ran up to a roof terrace giving access to the upper bi-columnar shrine, or temple proper. This had been partly ruined by an earthquake that also did much damage to the Palace about 1520 B.C., and it was probably on this occasion that the plundering of the original interments took place which led to the loss of the gold ring.

The signet illustrates the advent of the Minoan Goddess to a new sanctuary, conveying her little pillar-shrine in a bark across an arm of sea. A separate scene shows her seated on an altar base and offered the juice of a sacred tree

by a youthful attendant, while a small hand-maiden descends to her from above.

The sepulchral chamber itself, as its sunken pavement and central pillar indicate, was also a scene of worship, and a characteristic stone block for libations, with five tubular cavities, represents in an almost unchanged form an early Nilotic cult object. An incense burner of later date was also remarkable as having been painted inside as well as out with bright coloured decoration for the benefit of the dead. In the last age of the Palace (*c. 1400 B.C.*) the vault was again opened for the interment—probably of some last scion of the House of Minos—in a corner pit. This, though it had been rifled for precious objects, contained many interesting relics, and there was also evidence of a renewed funereal cult, illustrated by a series of offertory bowls and goblets, amongst which were miniature jugs otherwise associated with domestic snake worship. Some of the bones had drifted outside the entrance of the Sepulchre Chamber, and the skull with which they are associated, according to the report kindly made for me by Dr. L. H. Dudley Buxton, is intermediate between the old Mediterranean type of Crete and the intrusive Armenoid, a type to be expected in a Late Minoan dynast. The remains are those of an elderly man whose limbs attest athletic training. The funereal cult continued through the earlier phase of L.M. III.

The discovery of the Temple Tomb had a sequel of almost equal importance. A short section of paved way led to what was clearly the residence of the priestly Warden of this Minoan 'Holy Sepulchre.' This contained a private chapel with choir-stalls, chancel-screens, and, in the inner sanctum, an altar and sacred symbols of the Cult.

Extensive works of conservation and partial reconstruction were carried out in the 'Little Palace.'

#### Ithaca

(Report of Mr. W. A. Heurtley.)

During the months of August, September and October 1930, excavations were carried out in the north part of the island of Ithaca. Four points were explored: the hill of Pelikata, the bay of Polis, the so-called 'School of Homer,' and the area near the modern village of Stavros. On the hill of Pelikata an extensive Early Helladic settlement was discovered. Owing to severe earthquakes, the remains are ruinous, and little more than heaps of stones. In one area, however, these heaps of stones had been levelled to make a wide space on which must have stood houses of wattle-and-daub on stone foundations. Evidences of occupation here were bored stone axes, many clay spindle-whorls and masses of pottery. A circuit wall of large irregular blocks of stone ran just below the flat summit of the hill, enclosing part of the settlement, and some of this wall is still preserved *in situ* as well as part of a paved road about three metres wide which ran alongside of it. Several burials in large jars were found under the floors of houses. Besides bones the

jars contained funerary objects, blades of flint or Melian obsidian, stone beads (and one of gold) and small vases, and in one case the clay model of a bull. Since a certain amount of Middle Helladic (Minyan) and Late Mycenaean pottery was found mixed with the Early Helladic, it seems likely that the Early Helladic culture in this remote part of Greece lingered unchanged till Late Helladic times (*c.* the twelfth century B.C.), and, if this is so, the heaps of stones may represent the ruins of buildings that were standing at the time of the Trojan War. However this may be, the site was not re-occupied (except for burials in the late Greek and Roman periods) until comparatively modern times.

In the Bay of Polis a cave-sanctuary was explored by Miss Benton. This cave, of which the roof had fallen, was plundered some sixty years ago, and in 1904 was partially excavated by Dr. Vollgraff. The stratification, therefore, was confused and could give no help to the dating of the mass of votive objects, mostly pottery, which were recovered. Most of the latter, however, consist of recognisable types which show that the sanctuary was frequented from the Early Bronze Age to, at least, the first century B.C. Thus the Early, Middle, and Late Bronze Ages (Mycenaean), the Proto-Geometric, the Geometric, the Proto-Corinthian, the Corinthian (among other vases by a finely decorated plate), and later periods are all represented.

Inscriptions include the words ΕΥΧΗΝ ΟΔΥCCEI on a fragment of a votive terracotta showing part of the head of a goddess (Artemis?); three sherds have parts of the word ΝΥΜΦΑΙΣ inscribed on them; one complete inscription in Latin rather roughly scratched on a triangular tile-fragment dates from the year 35 B.C. (the names of the consuls being given), and records a visit on the 1st of October of that year by one Epaphroditus, an unguent seller from Rome.

Of the small objects, the most interesting is an ivory pendant in the form of a small standing figure (3·2 cm. high), around whose neck and arms is passed a bronze cord. Fragments of bronze and iron weapons were common.

The cave has now been fully explored down to sea-level. But, owing to subsidence, the original floor-level of the cave is below the sea, and could not be reached. Three hours' work, however, in a very limited area sufficed to recover several vases from the water, and there is little doubt that, if the water could be excluded, objects of great interest would be found, possibly undisturbed. But to do this, considerable expense would be involved.

At the site called the School of Homer further remains of imposing buildings were found by Mr. C. R. Wason, but have as yet been only partially cleared. The objects found in this area belong to the third century B.C. and later.

Finally, in the region of Stavros, part of a large circuit wall and numerous tile-graves, to be assigned to the fourth or third century B.C., were found.

Thus the excavations reveal that the north part of the island was inhabited from very early times, but, except for the objects from the cave sanctuary, there is at present a gap in the archaeological records for the period between about eleven hundred and four hundred B.C. It may be that this part of the

island remained uninhabited during that period: in any case, further exploration is much to be desired.

The excavation was financed by means of funds raised by Sir Rennell Rodd. Mr. T. Emmet was present during most of the time and generously placed his services at our disposal, making a careful survey of the whole area (1 : 5,000), as well as of each of the excavated areas (1 : 1,000). Mr. T. C. Skeat also gave great help in making section drawings and plans of the excavations, photographing vases and in many other ways.

**The Library.**—Total number of accessions, 264; in this are included 85 pamphlets, 41 bound periodicals, and 3 maps.

Principal purchases: *Antike Denkmäler*, IV, 1; Blinkenberg, *Lindos*; Blümel, *Katalog der antiken Skulpturen in Berliner Museen*, IV; Graef und Langlotz, *Akropolisvasen*, II, 2; Judeich, *Topographie v. Athen*, ed. 2; Karo, *Schachtgräber von Mykenai*; Mingazzini, *Collezione Castellani*; Müller, *Tiryns*, III; Regling, *Münzen v. Priene*; Waldhauer, *Antike Skulpturen der Ermitage*, II.

Principal gifts: (I), books presented by their authors—*Der Berliner Maler* (J. D. Beazley); *Gonia* (C. Blegen); *Catalogue of Coins found at Corinth, and Acrocorinth, Excavations 1926, The Coins* (A. R. Bellinger); *Attic Vase-paintings in Boston* (L. D. Caskey); *Ecritures Minoennes au Palais de Mallia* (F. Chapouthier); *The Bronze Age* (V. G. Childe); *Necrocorinthia* (the Director); *Papyri Osloenses*, II (S. Eitrem); *The Palace of Minos*, III (Sir A. Evans); *Primum Graius Homo* (B. Farrington); *Zur Anthropologie der prähistorischen Griechen in Argolis* (C. M. Fürst); *The Calabrian Procheiron* (E. Freshfield); *Athletics in the Ancient World* (E. N. Gardiner); *Termessische Studien* (R. Heberdey); *Greek Vases at Toronto* (Robinson, Harcum, and Iliffe), presented by Mr. Iliffe; *Orchomenos*, II (E. Kunze); *Corpus Vasorum, Cambridge*, I (Miss W. Lamb); *Alexandrian Poetry* (Couat), presented by the translator, Dr. J. Loeb; *History of Greek Coinage* (J. G. Milne); *Μονογραφία περὶ τῶν Τσαματῶν* (N. Νικούς); *Greek Cities in Sicily and Italy* (D. Randall-MacIver); *Delphoi* (F. Schober); *Composition of Homer's Odyssey* (W. J. Woodhouse).

Also shorter works by the following authors:—A. Andreades, the Assistant-Director, C. Bonner, C. Blegen, W. Cuttle, R. M. Dawkins, T. Kornerup, I. Lindquist, W. Lucas, E. Melas, J. A. Nairn, M. Nikolaev, A. Pallis, D. Talbot-Rice, H. Schrader, H. J. W. Tillyard, D. K. Tsopotos, R. and C. D. Vulpe, N. Valmin, A. J. B. Wace, T. Zammit.

(II) Other gifts: Foucher, *Beginnings of Buddhist Art* (Dr. Barnett); von der Osten, *Alishar Huyuk, 1927*, Pt. 1 (Mr. T. Burton Brown); Sieveking, *Bronzen, Terrakotten, Vasen der Sammlung Loeb* (Miss J. I. Low); Runciman, *History of the First Bulgarian Empire*, Macartney, *The Magyars in the IXth Century*, Orlando, *Monuments Byzantins de Chios*, and many other books and pamphlets (Dr. W. Miller); Burkitt, *Prehistory* (Mr. T. C. Skeat); books and pamphlets on Cyprus (H.E. Sir Ronald Storrs).

Other books were presented by: Mr. R. D. Barnett, Miss S. Benton, Mr. T. Burton Brown, Miss E. Cooper, Mr. O. Davies, the Assistant-Director, Mr. R. W. Hutchinson, Miss Hutton, Miss W. Lamb, Miss A. Lindsell, Messrs. W. Lucas, E. Tillyard, A. M. Woodward, C. R. Wason.

A valuable set of books and pamphlets dealing with Sparta has been given by Mr. M. N. Tod, and a number of books from the library of the late Dr. D. G. Hogarth have been presented to the School library and to the library of the Villa Ariadne by Mr. W. D. Hogarth.

Finally, the Committee have to thank the following Institutions for gifts of books:—The Trustees of the British Museum; the Cambridge University Press; the Hellenic Society; the Government of India; the Greek Ministry of Education; the Committee of the third Byzantine Congress; Σύλλογος πρόεδρος διάδοσιν ἀφελίμων βιβλίων; the American School of Classical Studies; the American Academy in Rome; Yale University; the German Archaeological Institute; the Archaeological Department of the Berlin Museum; the University of Lund; the Royal Society of Alexandria; the Roumanian Academy in Rome; the Polish Philological Society.

The Curator of Knossos reports that the Library of the Villa Ariadne has been strengthened by further purchases and gifts.

**The School Property and Premises.**—The School has been fortunate in not having to undertake any considerable repairs or alterations in the past year. There is consequently little to report under this heading, though it may perhaps be mentioned that the raising of the road immediately below the School will make it necessary to raise the lower garden wall in its entire length. Miss Lamb, Miss Lindsell, Dr. W. Miller and Mr. and Mrs. Pendlebury kindly subscribed towards the upkeep and improvement of the garden.

**Acknowledgements.**—The School again offers its thanks to the Greek Archaeological service for their helpfulness in all matters, in particular to Dr. Kourouniotes and to Prof. Oikonomos; likewise to the Ephors of Antiquities, Mrs. S. Karousos and Drs. Marinatos, Pelekides, and Paraskevaides; to H.M. Consuls in Salonika and Zakynthos, H.M. Vice-Consul at Candia; to Mr. G. Lekatsas, Proedros of Stavros, Ithaca, and Dr. G. Lekkas of Perachora.

To Miss R. Woodley, who most kindly undertook to assist the Librarian and to do secretarial work, an especial debt of gratitude is owing. Capt. J. Stuart Hay very kindly gave help with correspondence and other matters during the absence of the Director and Assistant Director in the late summer of 1931.

Gifts of pottery to the School Collection were made by Dr. Marton, Director of the National Museum, Budapest (sherds from Hungary), and by Mr. T. Burton Brown (sherds from Cyprus and Alishar).

**Finance.**—The Revenue Account for the year shows a credit balance of £30 2s. 7d. as compared with a similar balance of £508 os. 8d. for the preceding

year. Annual subscriptions have decreased from £984 to £952. The expenses of House and Hostel Maintenance have together increased by £208, but no special expenditure has recurred during the year. The Receipts for the year have been unduly swollen by an excess of donations for Perachora over expenditure on these Excavations during the period, while, on the other hand, the expenses incurred in the publication of the *Annual* are unduly high compared with the sales of the last *Annual*, which will only come into the current year's accounts.

The Committee have great pleasure in announcing that the School has been offered as a further endowment, £2,000 of 5 per cent. Debenture Stock of the Anglo-Celtic Trust, Limited, and £2,000 5 per cent. Debenture Stock in the Foreign and Colonial Investment Trust, Limited, which they have accepted with deep gratitude. These securities are the gift of one of the oldest and best friends of the School who desires to remain anonymous.

Though the permanent income will be substantially increased from one direction, there is some evidence that there is likely to be a falling off in Annual Subscriptions during the current year, and the fall in the value of the pound must add to expenses at Athens. It is therefore as necessary as ever to obtain fresh financial support if the activities of the School are to be maintained.

The following motion proposed by Mr. WACE and seconded by Professor ROBERTSON was put to the Meeting and carried unanimously :—

'That Professor ASHMOLE be elected a member of the Committee, that Professors DROOP and MYRES, Mr. FORSDYKE, Mr. TOYNBEE and Mr. WHIBLEY be re-elected members of the Committee, and that Mr. V. W. YORKE be re-elected Hon. Treasurer.'

The Chairman, Sir FREDERIC KENYON, then moved the adoption of the Annual Report, which was seconded by Dr. J. G. MILNE and carried unanimously.

The Director, Mr. H. G. G. PAYNE, then lectured with lantern slides on the School's excavations during the Session at Perachora in Corinthia.

After a vote of thanks to the Chairman, the proceedings ended.

## THE BRITISH SCHOOL AT ATHENS.

1930-1931.

## RECEIPTS AND EXPENDITURE ON ACCOUNT OF REVENUE.

3RD OCTOBER, 1930, TO 2ND OCTOBER, 1931.

	£ s. d.		£ s. d.
Subscriptions received during the year . . . . .	952 10 1	House Maintenance (as provided from London to September 30th, 1931) . . . . .	293 7 4
Subscriptions received for the year 1929-1930 . . . . .	15 7 0	Hostel Maintenance (as provided from London to September 30th, 1931) . . . . .	422 12 8
Government Grant . . . . .	500 0 0	Salary—Director, and Expenses (£100) . . . . .	600 0 0
Grant by the Commissioners of the Exhibition of 1851 . . . . .	200 0 0	Salary—Assistant Director . . . . .	275 0 0
Interest on Investments . . . . .	360 0 0	Salary—Secretary . . . . .	40 0 0
Interest on Deposit . . . . .	7 4 0	Salary—Assistant Secretary . . . . .	10 0 0
Sale of Annuals . . . . .	134 16 4	Salary—Architect . . . . .	100 0 0
Receipts from Hostel . . . . .	279 16 2	Publication of Annual . . . . .	656 11 7
Special Donations for Excavations at Perachora . . . . .	913 11 4	Purchase of Loring Equipment . . . . .	11 17 5
Knossos Site Fund. Income from Rent and Investments . . . . .	528 0 0	Rent . . . . .	10 0 0
		Printing, Postage, etc. . . . .	69 6 8
		Studentship . . . . .	100 0 0
		Audit Fee . . . . .	10 10 0
		Expenditure on Excavations at Perachora . . . . .	639 8 4
		Assistant Director's Entertainment Allowance . . . . .	25 0 0
		Sundry Expenses . . . . .	23 13 6
		Maintenance at Knossos :—	
		£ s. d.	
		Mackenzie Pension 150 0 0	
		Other Expenses . . . . .	423 14 10
			573 14 10
		Balance being Excess of Income over Expenditure . . . . .	30 2 7
	<u>£3,891 4 11</u>		<u>£3,891 4 11</u>

## RECEIPTS AND EXPENDITURE ON CAPITAL ACCOUNT.

3RD OCTOBER, 1930, TO 2ND OCTOBER, 1931.

	£ s. d.		£ s. d.
Donations as per List . . . . .	4,092 2 6	Library . . . . .	126 3 5
Entrance Fees . . . . .	23 2 0	Balance being Excess of Receipts over Expenditure . . . . .	3,989 1 1
	<u>£4,115 4 6</u>		<u>£4,115 4 6</u>

## BALANCE ACCOUNT—2ND OCTOBER, 1931.

DR.	£ s. d.	CR.	£ s. d.
Subscriptions received in advance	12 8 0	Investments—	
Anniversary Fund . . . . .	289 0 6	£2,000 India 3% £ s. d.	
The Gustav Sachs Trust Fund (Income) . . . . .	78 15 6	Stock at par . 2,000 0 0	
Maintenance of Knossos Fund (Capital) . . . . .	109 8 0	£3,000 5% War	
Knossian Tombs Fund . . . . .	10 17 10	Stock at 95 . 2,850 0 0	
Macmillan Studentship (Balance of Income) . . . . .	190 0 0	£1,200 Paris Lyon	
Knossos Library as per contra .	16 13 9	Méditerranée	
Add Balance, repre- senting the assets of the School other than land, build- ings and library as per last ac- £ s. d.		Railway at cost 1,222 13 0	
count . . . . .	7,973 11 6	£1,300 Berlin 6%	
Add Balance of Capital Account for year . . . . .	3,989 11	Loan at cost 1,222 3 0	
	<u>11,962 12 7</u>	2,000 5% De- benture Stock, Anglo-Celtic	
Add Balance of Revenue for year	30 2 7	Trust, Ltd. . 2,000 0 0	
		£2,000 5% De- benture Stock, Foreign and	
		Colonial Invest- ment Trust, Ltd. 2,000 0 0	
		<u>11,294 16 0</u>	
		Income Tax recoverable . . . . .	193 1 0
		Knossos Library Fund as per contra . . . . .	16 13 9
		H. G. G. Payne School Account	54 8 7
		Anna Sokrides Fund . . . . .	8 15 6
		Cash at Bank . . . . .	232 3 11
		Cash on Deposit . . . . .	900 0 0
		<u>£12,699 18 9</u>	<u>£12,699 18 9</u>

## THE MACEDONIAN EXPLORATION FUND.

3RD OCTOBER, 1930, TO 2ND OCTOBER, 1931.

	£ s. d.	£ s. d.	
Balance from last Account . . .	3 11 4	Grant (Mr. A. W. Heurtley) . . .	28 11 4
Grant from British Association .	25 0 0		
	<u>£28 11 4</u>		<u>£28 11 4</u>

## KNOSSIAN TOMBS FUND.

	£ s. d.	£ s. d.	
Balance from last Account . . .	10 17 10	Balance to be carried forward . . .	10 17 10

## INCOME AND EXPENDITURE.

199

## MACMILLAN STUDENTSHIP FUND.

	£ s. d.		£ s. d.
Balance from last Account	60 0 0	Grant to Mr. Pendlebury	100 0 0
Interest from Investments	200 0 0	Balance to be carried forward	190 0 0
Income Tax recovered	30 0 0		
	<u>£290 0 0</u>		<u>£290 0 0</u>

## THE GUSTAV SACHS TRUST FUND.

## INCOME AND EXPENDITURE ACCOUNT.

3RD OCTOBER, 1930, TO 2ND OCTOBER, 1931.

	£ s. d.		£ s. d.
Balance from last Account	43 8 3	Balance to be carried forward	78 15 6
Interest from Investments	35 7 3		
	<u>£78 15 6</u>		<u>£78 15 6</u>

## KNOSSOS LIBRARY FUND.

	£ s. d.		£ s. d.
Balance from last Account	24 17 6	Expenditure during year	8 3 9
		Balance to be carried forward	16 13 9
	<u>£24 17 6</u>		<u>£24 17 6</u>

Examined, checked, and found correct,

CRANSTOUN TODD &amp; Co.,

3 Cannon St., London, E.C. 4.

23rd October, 1931.

Chartered Accountants.

## DONATIONS—1930-1931.

	£ s. d.
All Souls' College	50 0 0
Queen's College, Oxford	5 0 0
Hellenic Travellers' Cruise	25 5 6
Cheesman, E. P.	1 0 0
Davies, O.	16 0
Leeds, Mrs.	1 0 0
Low, Miss J.	5 0 0
Thomas, Miss	1 0 0
Tillyard, E. M. W.	1 0 0
Waddell, M.	1 0 0
Willoughby, Mrs.	1 1 0
	<u>£92 2 6</u>

## SPECIAL DONATION—1930-1931.

Anonymous . . . . . £4,000 0 0

## ANNUAL SUBSCRIPTIONS—1930-1931.

	£	s.	d.
University of Cambridge . . . . .	100	0	0
University of Oxford . . . . .	100	0	0
McGill University . . . . .	20	0	0
University of London . . . . .	25	0	0
University of Adelaide . . . . .	4	0	0
University of Reading . . . . .	2	0	0
University of Sheffield . . . . .	2	2	0
University of Toronto . . . . .	20	8	1
Victoria University of Manchester . . . . .	5	0	0
The Society for the Promotion of Hellenic Studies . . . . .	100	0	0
Society of Antiquaries . . . . .	5	5	0
Balliol College, Oxford . . . . .	2	2	0
Brasenose College, Oxford . . . . .	5	0	0
Christ Church, Oxford . . . . .	30	0	0
Emmanuel College, Cambridge . . . . .	5	0	0
Gonville and Caius College, Cambridge . . . . .	10	0	0
King's College, Cambridge . . . . .	10	0	0
Magdalene College, Oxford . . . . .	20	0	0
New College, Oxford . . . . .	5	0	0
Newnham College, Cambridge . . . . .	2	0	0
Oriel College, Oxford . . . . .	10	0	0
Pembroke College, Cambridge . . . . .	5	0	0
Peterhouse, Cambridge . . . . .	5	0	0
St. John's College, Oxford . . . . .	5	0	0
Somerville College, Oxford . . . . .	2	2	0
Trinity College, Cambridge . . . . .	10	10	0
Trinity College, Oxford . . . . .	2	2	0
University College, Oxford . . . . .	2	2	0
Balliol College Library . . . . .	3	3	0
Fisher Library, Sydney . . . . .	2	0	0
Leeds Library . . . . .	2	0	0
London Library . . . . .	2	0	0
St. John's College Library . . . . .	2	0	0
Westminster School Library . . . . .	1	1	0
Otago Institute, Dunedin . . . . .	2	2	0
People's Free Reading Room and Library, Bombay . . . . .	2	0	0
Royal Institute of British Architects . . . . .	50	0	0
Glyn Mills & Co. . . . .	5	5	0
		<hr/>	
		Carried Forward	£586 4 1

	<i>£</i>	<i>s.</i>	<i>d.</i>		<i>£</i>	<i>s.</i>	<i>d.</i>
Brought forward	586	4	1	Brought forward	711	1	1
Adcock, Prof. F. E.	2	2	0	Gardner, Prof. Percy	2	2	0
Allen, T. W.	1	1	0	Garstang, Prof. J.	2	0	0
Ashmole, Prof. B.	2	2	0	Giveen, R. L.	1	1	0
Bailey, C.	1	1	0	Gleadow, M.	1	1	0
Bailey, J. C.	1	0	0	Gomme, A. W.	2	0	0
Barber, E. A.	1	1	0	Gooch, G. P.	1	1	0
Barbour, G. F.	2	2	0	Goodwin, J. A.	2	2	0
Barlow, Sir T.	2	2	0	Gordon, H. P.	2	2	0
Beazley, Prof. J. D.	1	1	0	Griffith, F. L.	1	1	0
Benecke, P. V. M.	2	2	0	Haigh, H. P.	2	2	0
Bevan, E. R.	1	0	0	Halliday, Miss C.	1	0	0
Blomfield, Sir R. J.	1	1	0	Halliday, Principal W.			
Boethius, Dr. A.	2	2	0	R.	1	1	0
Bosanquet, Prof. R. C.	2	2	0	Harewood, Earl of	2	2	0
Bower, L.	2	2	0	Hart, P.	1	1	0
Brooks, E. W.	2	0	0	Hett, Captain W. S.	2	0	0
Bryant, Miss A.	4	0	0	Hill, G. F.	2	2	0
Budden, Prof. L. B.	2	2	0	Holroyd, M.	2	0	0
Burnett, Sir J. J.	1	1	0	Hopkinson, Rev. J. H.	1	1	0
Buxton, A. F.	2	0	0	Hutton, Miss C. A.	3	3	0
Carlisle, Miss H.	1	1	0	Impey, E.	2	2	0
Carr, C. T.	2	2	0	Kean, H. H.	2	0	0
Caskey, Mrs. L. D.	2	2	0	Kenyon, Sir F. G.	1	1	0
Chance, A. F.	2	2	0	Knapp, Captain A.	1	0	0
Childe, Prof. V. Gordon	2	2	0	Lamb, Mrs. M.	10	0	0
Clarke-Thornhill, T. B.	1	0	0	Lamb, Miss W.	2	2	0
Cooke, R.	1	1	0	Lambert, Rev. L.	1	0	0
Cooper, Miss E.	1	1	0	Leaf, Mrs. W.	2	2	0
Courthorpe, Miss E.	2	0	0	Leconfield, Lady	1	1	0
Crowfoot, J. W.	2	2	0	Letts, M.	2	0	0
Culley, Mrs. E. B.	1	1	0	Lindley, Mrs. J.	2	2	0
Currelley, Prof. C. T.	1	1	0	Lindsell, Miss A.	2	2	0
Dawes, Mrs. E. A. S.	2	2	0	Lloyd, Miss A. M.	1	1	0
Dawkins, Prof. R. M.	2	2	0	Lloyd, Miss M. E. H.	1	1	0
Droop, Prof. J. P.	5	5	0	Lorimer, Miss H. L.	2	0	0
Droop, Miss L.	2	2	0	Low, Miss J. L.	2	2	0
Dundas, R. H.	2	0	0	Macan, R. W.	1	1	0
Eddy, C. B.	2	0	0	MacIver, D. R.	10	0	0
Elliott, Sir F. E. H.	2	0	0	Macmillan, G. A.	50	0	0
Empedocles, Mr. and Mrs.	5	0	0	Macmillan, W. R. F.	3	0	0
Erlanger, R.	21	0	0	Major, Miss E. H.	1	1	0
Eumorfopoulos, N.	2	0	0	Malcolm, Lady E.	1	1	0
Evans, Sir A. J.	10	0	0	Mayor, R. J. G.	1	1	0
Fanning, Miss F. E.	2	2	0	Meikle, Mrs. M.	2	2	0
Fels, Willi	2	0	0	Metcalfe, D.	2	2	0
Fleming, Miss	2	0	0	Miller, W.	5	0	0
Fletcher, H. M.	1	1	0	Milne, Mrs. J. G.	2	2	0
Forsdyke, E. J.	2	2	0	Milne, J. G.	1	1	0
Forster, Prof. E. S.	1	0	0	Mitchison, Miss N.	1	0	0
Fort, A. J.	1	0	0	Ormerod, Prof. H. A.	1	1	0
Fotheringham, J. K.	1	0	0	Palairet, C. N.	2	0	0
Furneaux, L. R.	1	0	0	Pantin, Mrs.	10	0	0
Gardner, Prof. E. A.	2	2	0	Payne, H. G. G.	2	2	0
				Pearson, Hon. Clive	5	0	0
Carried forward	711	1	1	Carried forward	869	3	1

	£ s. d.		£ s. d.
Brought forward	869	3	I
Pearson, Miss E. R.. .	2	0	0
Pennant, Hon. Alice			
Douglas . . . .	I	I	0
Penoyre, J. B. . . .	2	2	0
Penrose, Dame E. . . .	I	I	0
Pesel, Miss Louisa F. . . .	I	I	0
Petrocochino, D. P. . . .	2	2	0
Pickard-Cambridge, A. W. . . .	2	2	0
Piddington, J. G. . . .	2	2	0
Pollock, Sir F. . . .	I	I	0
Radford, Miss E. . . .	I	I	0
Rendall, Dr. G. H. . . .	2	0	0
Richards, Miss C. D. . . .	2	2	0
Richter, Miss G. M. A. . . .	2	2	0
Robertson, Prof. D. S. . . .	2	0	0
Robinson, Dr. W. . . .	2	2	0
Rodd, Sir R. . . .	I	I	0
Rush, Mrs. . . .	I	0	0
Sadler, Sir M. E. . . .	2	0	0
Salter, Mrs. H. de G. . . .	I	I	0
Seaman, Sir O. . . .	I	I	0
Seeböhm, H. E. . . .	2	2	0
Seltman, C. T. . . .	2	2	0
Sikes, E. C. . . .	I	I	0
Carried forward	906	10	I
			Total . . £952 10 I

## Subscriptions received during the year :—

	£ s. d.		£ s. d.
For 1928-1929.			
Meikle, Mrs. . . . .	2	2	0
Moloney, W. J. . . . .	I	I	0
			3 3 0
For 1929-1930.			
Archäologisches Institut der Deutschen Universität, Prague . . . . .	2	0	0
Ny-Carlsberg Glyptothek . . . . .	2	0	0
Burn, Miss . . . . .	I	0	0
Eddy, C. B. . . . .	2	0	0
Heurtley, W. A. . . . .	I	0	0
Meikle, Mrs. M. . . . .	2	2	0
Turle, Captain C. . . . .	I	I	0
Usher, Rev. P. . . . .	I	I	0
			12 4 0
For 1931-1932.			
Adcock, Prof. F. E. . . . .	2	2	0
Burnett, Sir J. J. . . . .	I	I	0
Childe, Prof. V. Gordon . . . . .	2	2	0
Pollock, Sir F. . . . .	I	I	0
Sadler, Sir M. E. . . . .	2	0	0
Seeböhm, H. E. . . . .	2	2	0
Snijder, Prof. G. A. S. . . . .	2	0	0
			12 8 0

## PERACHORA EXCAVATION FUND.

	£ s. d.
Anonymous . . . . .	500 0 0
do. . . . .	10 0 0
All Souls' College . . . . .	10 0 0
Balliol College . . . . .	5 0 0
Oriel College . . . . .	10 10 0
University of Oxford . . . . .	50 0 0
Hellenic Traveller's Cruises . . . . .	6 12 1
do. do. do. . . . .	43 12 0
Society of Dilettanti . . . . .	25 0 0
Acland, H. D. . . . .	1 1 0
Adcock, F. E. . . . .	5 0 0
Ashmole, E. . . . .	1 10 0
Austin, Mrs. . . . .	1 1 0
Austin, R. P. . . . .	10 6
Benecke, P. V. M. . . . .	2 2 0
Blakeway, A. . . . .	2 2 0
Bruce, K. H. . . . .	1 0 0
Butler, N. M. . . . .	1 1 0
Call, Lt.-Col. C. F. . . . .	10 0 0
Compton, Rev. W. C. . . . .	1 0 0
Culley, Mrs. E. B. . . . .	1 1 0
Cuttle, W. L. . . . .	3 3 0
Davidson, Mr. and Mrs. . . . .	10 4 3
Droop, Prof. J. P. . . . .	5 5 0
Dundas, R. H. . . . .	5 0 0
Edgar, C. C. . . . .	1 1 0
Empedocles, Mr. and Mrs. . . . .	2 0 0
Eumorfopoulos, N. . . . .	2 0 0
Fanan, G. . . . .	1 1 0
Farquhar, Miss H. . . . .	1 0 0
Fulham, S. . . . .	1 1 0
Gardner, Prof. P. . . . .	3 0 0
Gomme, A. W. . . . .	10 6
Hignett, C. . . . .	1 1 0
Holroyd, M. . . . .	3 3 0
Jenkins, R. . . . .	2 8 0
Lamb, Miss . . . . .	7 0 0
Lewis, J. Spedan . . . . .	10 0 0
Lord, T. N. . . . .	2 2 0
Macaulay, W. H. . . . .	2 0 0
Macmillan, G. A. . . . .	100 0 0
Macmillan, W. . . . .	15 0 0
Mander, G. . . . .	2 2 0
Carried forward	<u>£868 4 4</u>

	Brought forward	£	s.	d.
		868	4	4
Meikle, R. M.	.	5	0	0
Pertz, Miss D.	.	1	1	0
Price, Miss E. R.	.	5	0	0
Richards, Miss C.	.	1	1	0
Robertson, C. M.	.	1	1	0
Robertson, Prof. D. S.	.	5	5	0
Rule, R.	.	2	2	0
Skeat, W. W.	.	1	1	0
Sloane, Miss	.	2	2	0
Smith, A. H.	.	1	1	0
Spranger, J. A.	.	5	0	0
Stafford, Lord	.	5	0	0
Stephens, D.	.	10	0	0
Taylor, C. F.	.	1	1	0
Taylor, E. B.	.	1	1	0
Turle, Captain C.	.	1	1	0
Wigram, Canon W. A.	.	7	0	0
		£	913	11 4

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NOTE. Under No. V. of the Rules and Regulations, 'the following shall be considered as subscribers to the School:—

- (1) Donors, other than Corporate Bodies, of £10 and upwards.
- (2) Annual Subscribers of £1 and upwards during the period of their subscription.'

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The Hon. Treasurer would be glad to be informed of any changes of address or errors in this list, which is made up to September 30th, 1932.

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BALLIOL COLLEGE, Oxford.

BALLIOL COLLEGE, Oxford, The Library of.

BRASENOSE COLLEGE, Oxford.

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KING'S COLLEGE, Cambridge.

MAGDALEN COLLEGE, Oxford.

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\* Address to the Reader in Classical Archaeology, Museum of Classical Archaeology, Little St. Mary's Lane, Cambridge.

NEW COLLEGE, Oxford.  
 NEWNHAM COLLEGE, Cambridge.  
 ORIEL COLLEGE, Oxford.  
 PEMBROKE COLLEGE, Cambridge.  
 QUEEN'S COLLEGE, Oxford.  
 ST. JOHN'S COLLEGE, Cambridge.  
 ST. JOHN'S COLLEGE, Oxford.  
 SOMERVILLE COLLEGE, Oxford.  
 TRINITY COLLEGE, Cambridge.  
 TRINITY COLLEGE, Oxford.  
 UNIVERSITY COLLEGE, Oxford.  
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 THE PEOPLE'S FREE READING ROOM AND LIBRARY, 6, Sakavala Bldgs., Ravine Street, Hornby Road, Fort, Bombay.  
 THE CLASSICAL INSTITUTE, University of Tartu (Dorpat), Estonia (Prof. P. Baumann).  
 ALLEYNS SCHOOL, The Library.  
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F. W. Hasluck. M.A. Late Fellow of King's College, Cambridge. Formerly Assistant Director and Librarian of the School. Elected 1915.  
W. Miller. M.A. Elected 1926.  
M. N. Tod. M.A., F.B.A., O.B.E. Fellow of Oriel College, Oxford. Elected 1929.  
Miss W. Lamb, M.A. Hon. Keeper, Greek and Roman Department, Fitzwilliam Museum, Cambridge. Student 1920—1930. Elected 1931.

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*David G. Hogarth. M.A., D.Litt., C.M.G.	Fellow and formerly Tutor of Magdalen College, Oxford, and first Craven Fellow. Keeper of the Ashmolean Museum, Director of the School 1897—1900. Admitted 1886—87. Re-admitted (for work in Cyprus) 1887—88.
*Rupert C. Clarke. M.A.	Exeter College, Oxford. Rector of Ellesborough, Bucks, and Rural Dean of Wendover. Admitted 1886—87.
F. H. H. Guillemand. M.A., M.D., F.L.S., etc.	Gonville and Caius College, Cambridge. First University Reader in Geography. Admitted (for work in Cyprus) 1887—88.
Montague R. James. O.M., Litt.D.	Provost of Eton. Late Director of the Fitzwilliam Museum. Admitted (for work in Cyprus) 1887—88, with grant of £100 from the University, Cambridge.
R. Elsey Smith. F.R.I.B.A.	Professor of Architecture and Construction, University College, London. Appointed to Studentship of Royal Institute of British Architects, 1887—88.
R. W. Schultz Weir (R. Weir Schultz).	Admitted as Gold Medallist and Travelling Student in Architecture of the Royal Academy of Arts, 1887—88. Re-admitted 1888—89, 1889—90.
*Sidney H. Barnsley.	Admitted as Student of the Royal Academy, 1887—88. Re-admitted 1889—90, 1890—91.
J. A. R. Munro. M.A.	Rector of Lincoln College, Oxford. Admitted (for work in Cyprus) 1888—89. Re-admitted (for same purpose) 1889—90.
H. Arnold Tubbs. M.A.	Pembroke College, Oxford. Professor of Classics at University College, Auckland, N.Z. Craven University Fellow. Admitted (for work in Cyprus) 1888—89. Re-admitted (for same purpose) 1889—90.
Sir J. G. Frazer. O.M., LL.D., D.C.L.	Fellow of Trinity College, Cambridge. Admitted 1889—90.
†William Loring. M.A.	Late Fellow of King's College, Cambridge. Warden of Goldsmiths' College, New Cross. Secretary of the School, 1897—1903. Appointed to Cambridge Studentship, 1889—90. Re-admitted as Craven University Student, 1890—91, 1891—92, and 1892—93.

<sup>1</sup> \* Before a name signifies "deceased." † Signifies "died on Active Service." For the war-service, military and otherwise, rendered by Students of the School, see Vol. XXIII, p. viii.

\* Deceased.

† Died of wounds, October 22nd, 1915.

W. J. Woodhouse. M.A.	Queen's College, Oxford. Professor of Greek in the University of Sydney, N.S.W. Formerly Lecturer in Ancient History and Political Philosophy at the University of St. Andrews. Appointed to Oxford Studentship, 1889—90. Re-admitted as Craven University Fellow, 1891—92 and 1892—93. Re-admitted 1908, 1921. Honorary Student of the School.
G. C. Richards. M.A.	Late Fellow of Hertford College. Canon of Durham and Professor of Greek in the University of Durham. Admitted as Craven University Fellow, 1889—90. Re-admitted 1890—91.
O. H. Parry. M.A.	Magdalen College, Oxford. Vicar of All Hallows, East India Dock. Formerly Archbishop's Missioner to the Nestorian Christians. Admitted 1889—90.
J. F. R. Stainer. M.A., B.C.L.	Magdalen College, Oxford. Admitted 1889—90.
*R.A.H.Bickford-Smith. M.A., F.S.A.	Trinity College, Cambridge. Admitted 1889—90.
*A. G. Bather. M.A.	Late Fellow of King's College, Cambridge. Late Assistant Master at Winchester College. Admitted 1889—90. Re-admitted 1891—92, on appointment to the Cambridge Studentship; 1892—93 as Prendergast Greek Student; and again, 1893—94, as Cambridge Student.
E. E. Sikes. M.A.	Fellow and Tutor of St. John's College, Cambridge. Appointed to Cambridge Studentship, 1890—91.
J. G. Milne. D.Litt.	Corpus Christi College, Oxford. Late Assistant Secretary in the Board of Education. Appointed to Oxford Studentship, 1890—91.
H. Stuart Jones. D.Litt., F.B.A.	Fellow and formerly Tutor of Trinity College, Oxford. Principal of the University College of Wales. Late Camden Professor of Ancient History in the University of Oxford. Formerly Director of the British School at Rome. Admitted as Craven University Fellow, 1890—91. Re-admitted 1892—93.
Miss Eugénie Sellers (Mrs. S. Arthur Strong). Litt.D. (Manchester), LL.D., F.S.A.	Life Fellow of Girton College, Cambridge. Late Assistant Director of the British School at Rome. Formerly Keeper of the Duke of Devonshire's Collections. Admitted 1890—91.
F. Brayne Baker. M.A.	Sometime Scholar of Christ's College, Cambridge. Assistant Master at Malvern College. Admitted 1891—92.
C. C. Inge. M.A.	Magdalen College, Oxford. Vicar of St. Giles', Oxford. Appointed 1891—92 to the Oxford Studentship.
E. F. Benson. B.A.	King's College, Cambridge. Admitted 1891—92, with grant of £100 from the Worts Fund at Cambridge; 1892—93 on appointment to the Cambridge Studentship; 1893—94 as Craven Student; and 1894—95 as Prendergast Student.
J. G. Piddington. B.A. (J. G. Smith).	Magdalen College, Oxford. Admitted 1891—92. Re-admitted 1895—96.
V. W. Yorke. M.A.	Late Fellow of King's College, Cambridge. Hon. Treasurer of the School. Admitted 1892—93. Re-admitted 1893—94.

\* Deceased.

J. L. Myres. D.Sc., M.A.	Wykeham Professor of Ancient History in the University of Oxford. Formerly Fellow of Magdalen College, Oxford. Student and Tutor of Christ Church. University Lecturer in Classical Archaeology. Gladstone Professor of Greek in the University of Liverpool. Admitted 1892-93 as Craven Fellow. Re-admitted 1893-94 and 1894-95. Hon. Student of the School.
R. J. G. Mayor. M.A., C.B.	Late Fellow of King's College, Cambridge. Assistant Secretary in the Board of Education. Admitted 1892-93.
R. C. Bosanquet. M.A.	Trinity College, Cambridge. Late Professor of Classical Archaeology in the University of Liverpool. Assistant Director of the School, 1899-1900. Director 1900-1906. Admitted 1892-93. Re-admitted 1894-95. Re-admitted as Craven University Student 1895-96 and 1896-97.
Sir J. M. Cheetham. M.A., K.C.M.G.	Christ Church, Oxford. Late H.M. Envoy Extraordinary and Minister Plenipotentiary at Copenhagen. Admitted (Oxford Studentship) 1892-93.
E. R. Bevan. D.Litt., LL.D.	New College, Oxford. Admitted 1893-94.
A. F. Findlay. M.A.	Sent out as holder of Brown-Downie Fellowship by the United Presbyterian Church, Divinity Hall, Edinburgh. Admitted 1894-95.
J. G. Duncan. M.A., B.D.	Sent out from Aberdeen by the Church of Scotland. Minister of Kirkmichael, Ballindalloch, N.B. Admitted 1894-95.
J. E. Brooks. M.A.	St. Peter's College, Cambridge. Admitted 1894-95. Re-admitted as Associate 1896-97.
*H. Awdry. M.A.	New College, Oxford. Assistant Master at Wellington College. Admitted 1894-95.
Duncan Mackenzie. M.A. (Edin.), Ph.D. (Vienna).	Universities of Edinburgh and Vienna. Carnegie Fellow in History at the University of Edinburgh. Archaeological Curator at Knossos 1926-29. Admitted 1895-96. Re-admitted 1896-97, 1897-98 and 1898-99.
Archibald Paterson.	University of Edinburgh. Admitted 1895-96.
C. R. Rowland Clark.	Student of the Royal Academy. Appointed 1895-96, and re-appointed 1896-97, by the Managing Committee to an Architectural Studentship.
C. C. Edgar. B.A.	Oriel College, Oxford. Inspector of Antiquities for Lower Egypt. Admitted 1895-96, and re-admitted 1896-97 (as Craven University Fellow), 1897-98 and 1898-99.
F. R. Earp. M.A.	Late Fellow of King's College, Cambridge. Admitted 1896-97.
*F. A. C. Morrison. M.A.	Jesus College, Cambridge. Admitted (as Prendergast Greek Student) 1896-97.
H. H. West. M.A.	Formerly of Trinity College, Cambridge. Admitted 1896-97.
*Miss C. A. Hutton.	Girton College, Cambridge. Hon. Secretary of the Society for the Promotion of Hellenic Studies. Joint Editor of the <i>Annual</i> , 1906-26. Admitted 1896-97.

\* Deceased.

J. G. C. Anderson. M.A.	Camden Professor of Ancient History in the University of Oxford. Formerly Fellow of Lincoln College. Student, Tutor, and sometime Senior Censor of Christ Church, Oxford. Admitted (as Craven University Fellow) 1896—97.
J. W. Crowfoot. M.A.	Brasenose College, Oxford. Director of the British School of Archaeology in Jerusalem. Late Director of Education, Sudan Government. Admitted, on appointment to the Oxford Studentship, 1896—97. Re-admitted 1897—98.
W. W. Reid. B.D.	Universities of Aberdeen and Edinburgh. Minister of the Church of Scotland, Dumbarton, N.B. Admitted, as holder of Blackie Travelling Scholarship, 1896—97.
A. E. Henderson. F.S.A., F.R.I.B.A.	Owen Jones Student of Royal Institute of British Architects, 1897—98. Admitted 1897—98. Re-admitted 1898—99, 1901—2, and 1902—3.
W. A. Curtis. D.Litt., D.D. (Edin.).	Heriot Scholar of Edinburgh University. Regius Professor of Biblical Criticism and Biblical Antiquities in the University of Edinburgh. Formerly Professor of Systematic Theology in the University of Aberdeen. Admitted 1897—98.
A. J. Spilsbury. M.A.	Queen's College, Oxford. Head Master of Wakefield Grammar School. Formerly Senior Classical Master, City of London School. Admitted 1897—98, on appointment to the Oxford Studentship.
E. B. Hoare.	Magdalen College, Oxford. Admitted 1897—98, as Architectural Student.
J. C. Lawson. M.A.	Fellow, Tutor and Lecturer of Pembroke College, Cambridge. Admitted as Craven University Student, 1898—99. Re-admitted 1899—1900.
C. D. Edmonds. M.A.	Emmanuel College, Cambridge. Assistant Master at Berkhamstead School. Formerly at Aldenham School and at Royal Naval College, Osborne. Admitted as Prendergast Student, 1898—99.
Sir John H. Marshall, Kt. C.I.E., Litt.D., F.S.A.	Scholar of King's College, Cambridge. Director-General of the Archaeological Survey of India. Admitted 1898—99. Re-admitted as Prendergast Student, 1900—1, Craven Student, 1901—2.
*Clement Gutch. M.A.	King's College, Cambridge. Lecturer at St. John's College, Cambridge. Admitted, 1898—99, on appointment to the Cambridge Studentship.
F. B. Welch. M.A.	Magdalen College, Oxford. British Representative on the Commission mixte de l'Organisation des Populations Gréco-Bulgare. Formerly Vice-Consul, Athens. Admitted as Craven University Fellow, 1898—99. Re-admitted 1899—1900.
T. D. Atkinson. F.R.I.B.A.	Surveyor to the Dean and Chapter of Ely, to the Dean and Chapter of Winchester, and to the Warden and Fellows of Winchester College. Admitted as Architectural Student, 1898—99.
J. K. Fotheringham. M.A., D.Litt.	Merton and Magdalen Colleges, Oxford. Formerly Fellow of Magdalen College, Oxford. Reader in Ancient History in the University of London. Assistant in the University Observatory, Oxford. Admitted on appointment to Oxford Studentship, 1898—99.

\* Deceased.

Canon J. H. Hopkinson. M.A.	University College, Oxford. Organiser of Religious Education in the Diocese of Carlisle. Formerly Warden of Hulme Hall and Lecturer in Classical Archaeology, University of Manchester. Admitted as Craven University Fellow, 1899-1900 and 1900-1.
*Miss O. C. Köhler (Mrs. Charles Smith).	Girton College, Cambridge. Admitted 1899-1900.
D. Theodore Fyfe. F.R.I.B.A.	Surveyor to the Dean and Chapter of Chester. Master of the School of Architecture, Cambridge. Architectural Association Travelling Student, 1899. Admitted 1899-1900, on appointment to Architectural Studentship.
†K. T. Frost. M.A., F.R.G.S.	Brasenose College, Oxford. Lecturer at the Queen's University, Belfast. Admitted on appointment to the Oxford Studentship, 1900-1.
R. D. Wells. M.A., F.R.I.B.A	Trinity College, Cambridge. Admitted on appointment to the Architectural Studentship, 1900-1.
John Penoyre. M.A., C.B.E.	Keble College, Oxford. Secretary and Librarian to the Society for the Promotion of Hellenic Studies. Secretary to the British School at Athens, 1905-1919. Admitted 1900-1. Re-admitted 1906-7, 1907-8.
Marcus N. Tod. M.A., F.B.A., O.B.E.	Fellow of Oriel College, Oxford, and University Reader in Greek Epigraphy. Craven University Fellow. Assistant-Director of the School 1902-4. Admitted on appointment to "Senior Studentship," 1901-2. Honorary Student of the School
*F. W. Hasluck. M.A.	Sometime Fellow of King's College, Cambridge. Assistant Director and Librarian of the School from 1906-1915. Admitted on appointment to Cambridge Studentship 1901-2. Re-admitted 1902-3, 1904-5, 1905-6. Honorary Student of the School.
C. Heaton Comyn. F.R.I.B.A., M.R.San.I.	Admitted on appointment to the Architectural Studentship, 1901-2. Re-admitted 1903-4.
Miss H. L. Lorimer. M.A.	Girton College, Cambridge. Fellow of Somerville College. University Lecturer in Homeric Archaeology, Oxford. Admitted as Pfeiffer Travelling Student, 1901-2. Re-admitted 1910-11, 1921-22.
Baroness E. Rosenörn-Lehn.	Royal Holloway College, and University College, London. Admitted 1901-2.
A. P. Oppé. B.A.	New College, Oxford. Examiner in the Board of Education. Sometime Lecturer in Greek at St. Andrews University. Lecturer in Ancient History at Edinburgh University. Deputy Director and Secretary Victoria and Albert Museum. Admitted 1901-2.
W. L. H. Duckworth. M.D., Sc.D.	Fellow of Jesus College, Cambridge. University Lecturer in Physical Anthropology. Admitted 1902-3.
C. T. Currelly. M.A., F.R.G.S., F.R.S.C.	Victoria College, Toronto. Director of the Royal Ontario Museum. Formerly Assistant to Professor Flinders Petrie, under the Egypt Exploration Fund. Admitted 1902-3. Re-admitted 1903-4.
R. McG. Dawkins. M.A.	Hon. Fellow of Emmanuel College, Cambridge. Bywater Professor of Byzantine and Modern Greek Language and Literature in the University of Oxford. Director of the School from 1906-14. School Student. Admitted as Craven Student, 1902-3. Re-admitted 1903-4, 1904-5, 1905-6.

\* Deceased.

† Killed in action, September 4th 1914.

E. S. Forster. M.A., F.S.A., M.B.E.	Bishop Frazer's Scholar, Oriel College, Oxford. Professor of Greek in the University of Sheffield. Formerly Assistant Lecturer in the University College of N. Wales. Admitted on appointment to the Oxford Studentship, 1902—3. Re-admitted 1903—4, with grants from the Craven Fund and Oriel College.
A. J. B. Wace. M.A.	Formerly Fellow of Pembroke College, Cambridge. Deputy Keeper in the Victoria and Albert Museum. Sometime Lecturer in Ancient History and Archaeology in the University of St. Andrews. Norton Lecturer of the American Archaeological Institute, 1923—24. Prendergast Student. Craven Student. Admitted 1902—3. Re-admitted 1903—4, 1904—12. Director of the School, 1914—23. Honorary Student of the School.
†E. W. Webster. M.A.	Fellow of Wadham College, Oxford. Taylorian Scholar in German, 1901. John Locke Scholar in Mental Philosophy 1904. Admitted 1902—3.
J. B. Fulton. A.R.I.B.A.	Soane Student. Admitted 1902—3.
E. F. Reynolds.	Admitted 1902—3.
M. Cary. D.Litt. (M. O. B. Caspari.)	Late Scholar of Corpus Christi College, Oxford. Reader in Ancient History in the University of London. University Scholar in German. Admitted 1903—4.
J. L. Stokes. B.A.	Formerly Scholar of Pembroke College, Cambridge. Librarian of Charterhouse School since 1905. Admitted (as Holder of the Prior Scholarship from Pembroke College), 1903—4.
Miss M. K. Welsh (Mrs. A. M. Daniel).	Newnham College, Cambridge. Holder of the Marion Kennedy Studentship. Admitted 1903—4.
†G. Dickins. M.A.	Fellow of St. John's College, Oxford. Craven University Fellow. Admitted 1904—5, 1905—6. Re-admitted as School Student, 1906—7. Re-admitted 1907—8, 1908—9, 1912—13.
C. C. T. Doll. M.A.	Trinity College, Cambridge. Superintending Architect at the excavations at Knossos 1905—12. Admitted 1904—5.
C. H. Hawes. M.A.	Trinity College, Cambridge. Assistant Director, Boston Museum of Fine Arts. Late Professor of Anthropology, Dartmouth College, U.S.A. Admitted 1904—5, 1908—9.
W. A. Kirkwood. M.A. (Harvard), Ph.D. (Harvard).	University College, Toronto. Registrar of Trinity College, Toronto. Admitted 1904—5.
H. J. W. Tillyard. M.A., D.Litt. (Edinburgh).	Caius College, Cambridge. Professor of Greek at University College, Cardiff. Late Reader in Russian, University of Birmingham. Formerly Lecturer in Greek, University of Edinburgh. Admitted 1904—5 as Assistant Librarian. Re-admitted 1905—6 (on appointment to Studentship), 1906—7, 1908—9. Re-admitted 1912—13.
Miss G. M. A. Richter. Litt.D.	Girton College, Cambridge. Keeper of the Department of Classical Antiquities, Metropolitan Museum of Art, New York. Admitted 1904—5.

† Killed in action, April 9th, 1917.

† Died of wounds, July 17th, 1916.

J. P. Droop. M.A.	Trinity College, Cambridge. Professor of Classical Archaeology in the University of Liverpool. Late Assistant to Dr. Stein in the arrangement of his collections. Admitted 1905-6, 1906-7 (Pendergast Student), 1907-8 (School Student), 1908-9, 1910-11, 1912-13, 1913-14. Re-admitted 1921-22.
Miss M. Hamilton. M.A., D.Litt. (Mrs. L. Caskey).	University of St. Andrews. Holder of a Research Fellowship under the Carnegie Trust. Admitted 1905-6, 1906-7.
A. C. B. Brown. M.A.	Scholar of New College, Oxford. Fereday Fellow of St. John's College, Oxford. Formerly Assistant Lecturer in Classics, Manchester University. Assistant Master at Marlborough College. Admitted 1905-6.
F. Orr.	Admitted 1905-6.
R. Traquair. F.R.I.B.A.	Admitted 1905-6 (on appointment to an Architectural Studentship). Professor of Architecture, McGill University, Montreal. Re-admitted 1906-7, as Student of the Byzantine Fund.
Miss E. B. Abrahams. M.A. (Mrs. Culley).	Bedford College, London. Joint Editor of the <i>Annual</i> . Admitted 1905-6.
W. J. Farrell. M.A., M.C.	Late Fellow of Jesus College, Cambridge. Education Officer under Palestine Administration. Admitted 1906-7, 1907-8, 1908-9, 1909-10.
Walter S. George.	Travelling Student in Architecture of the Royal College of Art. Soane Medallist of Royal Institute of British Architects. Late Assistant to Architects of Imperial Delhi. Admitted 1906-7. Re-admitted 1908-9, 1909-10, as student of the Byzantine Research Fund. Re-admitted 1912-13.
T. E. Peet. M.A.	Queen's College, Oxford. Officer of Egypt Exploration Society and Professor of Egyptology in the University of Liverpool. Admitted as Craven Fellow, 1906-7, and as Pelham Student in the British School at Rome 1908-9.
A. M. Woodward. M.A.	Late Classical Demy of Magdalen College, Oxford. Lecturer in charge of the Department of Ancient History in the University of Sheffield. Director of the School, 1923-29. Assistant Director, 1909-10, 1922-23. Admitted 1906-7, 1907-8, 1908-9.
W. M. Calder. LL.D.	Christ Church, Oxford. Professor of Greek in the University of Edinburgh. Formerly Wilson Travelling Fellow, Aberdeen University. Research Student, Brasenose College, Oxford. Admitted 1907-8.
W. Harvey.	Gold Medallist and Travelling Student of the Royal Academy. Admitted 1907-8.
H. Pirie-Gordon. M.A., D.S.C.	Magdalen College, Oxford. Admitted 1907-8.
M. S. Thompson. M.A., O.B.E.	Corpus Christi College, Oxford. Holder of Chas. Oldham Scholarship. Craven Fellow. Admitted 1907-8, 1908-9, 1909-10, 1910-11, 1911-12. Hon. Secretary of the School, 1919-27.
A. C. Sheepshanks. B.A.	Trinity College, Cambridge. Assistant Master at Eton. Admitted 1907-8.
N. Whatley. M.A.	Late Fellow of Hertford College, Oxford. Headmaster of Clifton College. Admitted 1907-8.

†G. L. Cheesman. M.A.	Fellow and Lecturer of New College, Oxford. Admitted 1908—9.
A. W. Gomme. B.A.	Trinity College, Cambridge. Lecturer in Greek History and Archaeology, University of Glasgow. Previously Assistant Lecturer in Classics, Liverpool University. Prendergast Student. Admitted 1908—9, 1919—20, 1922—23.
L. B. Budden. M.A., A.R.I.B.A.	Professor in the School of Architecture of the University of Liverpool. Admitted 1909—10.
S. W. Grose. M.A.	Christ's College, Cambridge. Fellow and Tutor of Christ's College, Cambridge. From 1914, cataloguing McClean Collection of Greek Coins in the Fitzwilliam Museum. School Student. Admitted 1909—10.
H. A. Ormerod. M.A., M.C.	Queen's College, Oxford. Rathbone Professor of Ancient History in the University of Liverpool. Late Professor of Classics in the University of Leeds. Admitted 1909—10, 1910—11.
H. H. Jewell.	Royal Academy Gold Medallist. Admitted 1909—10.
W. R. Halliday. M.A., LL.D. (Glas.)	New College, Oxford. Principal of King's College, University of London. Late Rathbone Professor of Ancient History in the University of Liverpool. Craven Fellow. Admitted 1910—11. Re-admitted 1912—13.
Miss D. Lamb. M.B.E. (Lady Brooke).	Newnham College, Cambridge. Admitted 1910—11. Re-admitted 1913—14.
Miss L. E. Tennant (Mrs. F. J. Watson Taylor).	Admitted 1910—11.
E. S. G. Robinson. M.A.	Christ Church, Oxford. Assistant in the Coin and Medal Department, British Museum. School Student. Admitted 1910—11.
L. B. Tillard. B.A.	St. John's College, Cambridge. Admitted 1910—11.
A. J. Toynbee. B.A.	Sometime Fellow of Balliol College, Oxford. Late Koraes Professor of Byzantine and Modern Greek Language, Literature and History at King's College, University of London. Admitted 1911—12. Re-admitted 1920—21.
R. S. Darbshire. B.A.	Balliol College, Oxford. Admitted 1911—12.
Miss M. M. Hardie. M.A. (Mrs. F. W. Hasluck).	Newnham College, Cambridge. Admitted as School Student, 1911—12.
E. M. W. Tillyard. M.A., O.B.E.	Late Fellow of Jesus College, Cambridge. Admitted 1911—12.
M. L. W. Laistner. M.A.	Jesus College, Cambridge. Professor of Ancient History at Cornell University, Ithaca, N.Y. Late Reader in Ancient History in the University of London. Craven Student. Admitted 1912—13. Re-admitted 1913—14 as School Student.
S. Casson. M.A.	Lincoln College, Oxford, and Senior Scholar of St. John's College. Fellow of New College. University Lecturer in Classical Archaeology. Assistant Director of the School, 1919—1922. School Student. Admitted 1912—13. Re-admitted 1913—14.
R. S. Lambert.	Repton School. In charge of the Adult Education Section of The British Broadcasting Corporation.

† Killed in action, August 10th, 1915.

Gordon Leith.	Holder of Herbert Baker Studentship. Admitted 1912-13.
C. A. Scutt. M.A.	Clare College, Cambridge. Professor of Greek in the University of Melbourne, Victoria. Prendergast Student of the University of Cambridge. Admitted 1912-13. Re-admitted 1913-14.
†R. M. Heath. B.A.	Oriel College, Oxford. Craven Fellow. Admitted 1913-14.
J. Boxwell. B.A.	Scholar of Trinity College, Dublin. Travelling Scholar of Union of South Africa. Admitted 1913-14.
Miss M. N. L. Taylor (Mrs. H. C. Bradshaw).	Newnham College, Cambridge. Admitted 1913-14.
J. Arnott Hamilton. M.A.	University of Edinburgh. Holder of the Blackie Traveling Scholarship. Admitted 1913-14.
Miss E. Radford.	Admitted 1913-14.
Miss Agnes Conway. M.B.E.	Admitted 1913-14.
Rev. W. A. Wigram. D.D.	Admitted 1913-14. Chaplain to British Legation, Athens, 1923-26.
†C. B. Moss-Blundell. B.A.	New College, Oxford. School Student elect 1914-15.
H. Collingham. B.A.	Queens' College, Cambridge. Assistant Master at St. Olave's, Southwark. Craven Student. Admitted 1919-20.
M. Tierney. B.A.	University of Ireland. Professor of Ancient History, University College, Dublin. Admitted 1919-20.
A. W. Lawrence. B.A.	New College, Oxford. Laurence Reader in Classics in the University of Cambridge. Admitted with grant from the Craven Fund, 1919-20. Re-admitted 1921-22. Re-admitted as Craven Fellow, 1924-25.
*J. B. Hutton. M.A.	Lecturer in Greek History and Archaeology at University of Glasgow. Admitted with grant from the Carnegie Trustees, 1920-21.
F. L. Lucas. B.A.	Trinity College, Cambridge. Fellow and Lecturer of King's College. School Student. Admitted 1920-21.
B. Ashmole. M.A., M.C.	Hertford College, Oxford. Late Director of the British School at Rome. Yates Professor in the University of London. Craven Fellow. Admitted 1920-21, 1921-22.
H. T. Wade Gery. M.A.	New College, Oxford. Fellow and Tutor of Wadham College. Admitted 1920-21, 1921-22, 1922-23.
J. J. E. Hondius. Litt. Class. Doc.	University of Utrecht, Holland. Admitted as Foreign Student 1920-21.
C. A. Boethius. Dr. Phil.	University of Upsala, Sweden. Director of Swedish Arch. Inst., Rome. Admitted as Foreign Student 1920-21, 1921-22.
Miss L. Chandler. B.A.	University of Sheffield. Classical Mistress at the Hornsey High School. First Holder of Gustav Sachs Memorial Studentship. Admitted 1920-21.
Miss M. A. B. Herford. M.A. (Mrs. G. E. K. Braunholtz).	University of Manchester and Somerville College, Oxford. Formerly Lecturer in Classical Archaeology and Assistant Lecturer in Classics, University of Manchester. Admitted 1920-21.

† Killed in action, September 16th, 1916.

† Killed in action, September 26th, 1915.

\* Deceased.

Miss W. Lamb. M.A.	Newnham College, Cambridge. Hon. Keeper of the Greek and Roman Department, Fitzwilliam Museum. Admitted 1920—21. Re-admitted 1921—22, 1922—23, 1923—24, 1924—25, 1927—28, 1928—29, 1929—30, 1930—31. Hon. Student of the School.
M. A. Hondius-Van Haeften (Mrs. J. J. E. Hondius).	University of Utrecht, Holland. Admitted as Foreign Student, 1920—21.
W. A. Heurtley. B.A., O.B.E.	Caius College, Cambridge. Diploma of Archaeology, Oxford. Assistant Director and Librarian of the School. School Student. Admitted 1921—22, 1922—23.
R. W. Hutchinson. B.A.	St. John's College, Cambridge. Craven Student. Admitted 1921—22. Re-admitted 1930—31.
J. E. Scott. M.A.	Emmanuel College, Cambridge. Fellow and Lecturer of Caius College, Cambridge. Admitted 1921—22.
E. Smith. Ph.D.	University of Christiania, Norway. Lecturer in Classics. Admitted as Foreign Student, 1921—22.
*A. Smith (Mrs. E. Smith).	University of Christiania, Norway. Admitted as Foreign Student, 1921—22.
E. Kjellberg. Ph.D.	University of Lund, Sweden. Assistant in the National Museum, Stockholm. Admitted as Foreign Student, 1921—22.
J. Waldis. Dr.Phil.	University of Zurich, Switzerland. Professor at the Gymnasium, Lucerne. Admitted as Foreign Student, 1921—22.
G. Snijder. Ph.D.	University of Utrecht, Holland. Admitted as Foreign Student with Travelling Fellowship from his University, 1921—22.
J. Bell. M.A.	Fellow of Queen's College, Oxford. Admitted 1922—23.
*S. S. Clarke. B.A.	Balliol College, Oxford. Fellow of Exeter College. Craven Fellow. Admitted 1922—23, 1923—24.
B. L. Hallward. B.A.	King's College, Cambridge. Fellow of Peterhouse. University Lecturer in Classics. Admitted 1922—23 as School Student.
D. C. Macgregor. M.A.	Fellow of Balliol College, Oxford. Admitted 1922—23.
Miss J. Pybus (Mrs. A. M. Woodward).	Newnham College, Cambridge. Late Senior Classical Mistress, Newcastle Central High School. Admitted 1922—23.
A. G. Russell. B.A.	University of Liverpool. Classical Master at the Liverpool Institute. Admitted as Sachs Student, 1922—23.
C. T. Seltman. B.A.	Queens' College, Cambridge. Diploma of Archaeology, Cambridge. University Lecturer in Classics, Cambridge. Secretary of Cambridge Philological Society. Late George Charles Winter Warr Scholar. Prendergast Student. Admitted 1922—23.
O. J. Todd. Ph.D. (Harv.).	Associate Professor of Classics in the University of British Columbia. Admitted 1922—23.
Miss J. Webb. B.A.	University of Melbourne. Admitted 1922—23.
W. H. Alexander. M.A. (Tor.), Ph.D. (Calif.).	Professor of Classics in the University of Alberta, Canada. Admitted 1923—24. Re-admitted 1925—26.

\* Deceased.

Miss C. Brönsted.	University of Copenhagen. Admitted as Foreign Student 1923-24.
W. B. C. Buchanan. B.A.	University of Edinburgh. Admitted as holder of Blackie Travelling Scholarship, 1923-24.
C. W. M. Cox. B.A.	Balliol College, Oxford. Fellow of New College, Oxford. Admitted as Craven Fellow, 1923-24.
W. L. Cuttle. B.A.	Emmanuel College, Cambridge. Fellow and Tutor of Downing College, Cambridge. Admitted as Craven Student, 1923-1924. Re-admitted 1924-25 as School Student. Re-admitted 1925-26.
C. Hignett. M.A.	Fellow of Hertford College, Oxford. Admitted 1923-24.
Miss M. B. Hobling. B.A.	Somerville College, Oxford. Classical Mistress at the Perse Girls' School, Cambridge. Admitted as School Student, 1923-24. Re-admitted 1924-25 as holder of the Mary Ewart Scholarship.
Miss U. D. Hunt. M.A.	Bedford College, London. Classical Mistress, Tiffin Girls' School, Kingston-on-Thames. Formerly Lecturer at Bedford College for Women. Admitted 1923-24.
H. H. Keen. B.A.	Balliol College, Oxford. Admitted 1923-24.
M. B. C. Tait. B.A.	Balliol College, Oxford. Admitted 1923-24.
Miss E. Tankard. B.A.	University of Liverpool. Assistant-Secretary to Institute of Archaeology, Liverpool. Keeper of the Department of Archaeology, Liverpool Museum. Admitted with grants from Holt Educational Trust and the School, 1923-24. Re-admitted 1924-25, 1925-26.
Miss A. Wentzel.	University of Copenhagen. Admitted as Foreign Student, 1923-24.
R. P. Austin. B.A.	University College, Reading. Assistant Lecturer in Classics, University of Birmingham. Admitted 1924-25 with grants from University College, Reading and the Cornwall County Education Committee. Re-admitted as holder of a Postgraduate Travelling Studentship from University of London, 1925-26. Re-admitted 1927-28, 1930-31.
H. G. G. Payne. B.A.	Christ Church, Oxford. Director of the School. Admitted as holder of Travelling Scholarship in Mediterranean Archaeology, 1924-25, 1925-26. Re-admitted 1926-27. First holder of the Macmillan Studentship, 1928-29.
A. M. Farrer.	Balliol College, Oxford. Admitted as holder of the Clarke Memorial Exhibition, Easter, 1925.
J. H. Iliffe. B.A.	Emmanuel College, Cambridge. Director of the Museum, Jerusalem. Late lecturer at Toronto University. Admitted as Craven Student, 1924-25.
M. A. Sisson. A.R.I.B.A.	Admitted as Jarvis Student in Architecture at the British School at Rome, 1924-25. Re-admitted 1925-26.
B. I. Lawrence. B.A. (Mrs. A. W. Lawrence.)	Somerville College, Oxford. Admitted 1924-25.
Miss V. Whitfield. B.A. (Mrs. H. T. Wade-Gery.)	Somerville College, Oxford. Admitted as holder of a Gilchrist Scholarship, 1924-25. Re-admitted as holder of the Bryce Studentship, a Fellowship from Lady Margaret Hall, and a grant from the Ireland Fund, 1927-28.

H. Frankfort. Hist. Doct. (Leiden), M.A. (London).	Universities of Amsterdam and London. Field Director of the Iraq Expedition of the Oriental Institute of the University of Chicago. Admitted 1924—25.
H. A. Frankfort. Lit. n. Cand. (Mrs. H. Frankfort.)	University of Amsterdam. Admitted 1924—25.
P. Dikaios.	Admitted on Nomination of the Government of Cyprus, 1924—25.
H. Box. M.A.	St. John's College, Oxford. Lecturer in Classics at Uni- versity College, Hull. Admitted as School Student, 1925—26.
G. A. D. Tait. B.A.	St. John's College, Cambridge. Assistant Master at Eton College. Admitted with a Scholarship from his College, 1925—26.
O. Davies. B.A.	Exeter College, Oxford. Lecturer in Archaeology and Ancient History, Queen's University, Belfast. Ad- mitted as holder of the Clarke Memorial Exhibition, Easter, 1926. Readmitted as Craven Fellow, 1927— 28, 1928—29, 1929—30.
Miss E. Scott.	Oxford Home Student. Admitted 1925—26.
Miss J. Toynbee. B.A.	Newnham College, Cambridge. Admitted as Student of the British School at Rome, 1926.
R. A. Cordingley. A.R.I.B.A.	Admitted as Student in Architecture of the British School at Rome, 1925—26.
Miss K. M. T. Chrimes. B.A.	St. Hugh's Hall, Oxford. Admitted as Gilchrist Student of the British School at Rome, 1925—26.
Miss N. M. Holley.	Newnham College, Cambridge. Admitted as Student of the British School at Rome, 1925—26.
C. G. Hardie.	Balliol College, Oxford. Admitted as holder of the Clarke Memorial Exhibition, Easter, 1927.
*J. T. Hawdon. B.A.	University of Birmingham. Admitted as Sachs Student, 1926—27.
*Miss A. Masom. B.A.	University of London. Admitted 1926—27.
P. J. Dixon. B.A.	Pembroke College, Cambridge. Admitted as Craven Student 1927—28.
A. L. McMullen. B.A.	St. John's College, Cambridge. Admitted 1927—28.
J. D. S. Pendlebury. B.A.	Pembroke College, Cambridge. Director of Excavations at Tell el-'Amarna, Egyptian Exploration Society. Curator at Knossos. Admitted as School Student, 1927—28. Re-admitted 1928—29. Macmillan Student, 1929.
C. A. Ralegh Radford. B.A., F.S.A., F.R. Hist. S.	Exeter College, Oxford. Inspector of Ancient Monu- ments for Wales, H.M. Office of Works. Admitted 1927—28. Re-admitted 1928—29.
W. D. Woodhead M.A. (Oxon).	Professor of Greek, McGill University, Montreal. Ad- mitted 1927—28.
Miss S. Benton. M.A.	Girton College, Cambridge. Admitted 1927—28. Re- admitted 1930—31, 1931—32.
Miss M. Rodger. B.A.	Somerville College, Oxford. Admitted as School Student, 1927—28.

\* Deceased.

Miss H. White (Mrs. J. D. S. Pendlebury).	Newnham College, Cambridge. Admitted 1927-28. Re-admitted 1928-29.
I. Gallie.	Exeter College, Oxford. Admitted as holder of the Clarke Memorial Studentship, 1928.
W. G. Hardy. M.A.	Associate Professor of Classics, University of Alberta. Admitted 1928.
Mrs. Hardy.	Admitted 1928.
Miss M. Hartley. B.A.	Girton College, Cambridge. Assistant Lecturer in Classics, University of Liverpool. Admitted 1928-29. Re-admitted with grants from School Committee, Cambridge Craven Fund and Girton College, 1929-30, 1930-31.
H. W. Jacobs. B.A.	Wadham College, Oxford. Admitted as a Student of the School at Rome, 1928. Re-admitted 1928-29.
Miss M. I. Turnbull, M.A.	Lecturer in Classics, University of Otago, Dunedin, New Zealand. Admitted 1928.
J. E. Lloyd. B.A.	King's College, Cambridge. Admitted as School Student, 1928-29.
Prof. T. Le Roux.	University of Cape Town. Admitted 1928-29.
W. A. Laidlaw. M.A.	Trinity College, Dublin. Formerly Lecturer in the Uni- versity of Western Australia. Lecturer in the Uni- versity of St. Andrews. Admitted 1928-29.
Miss C. Barratt. M.A.	Somerville College, Oxford. Admitted 1928-29.
Miss A. E. Lindsell.	Newnham College, Cambridge. Warden of Bedford College House, London. Admitted 1928-29. Re- admitted 1930-31.
Miss A. Nance.	Slade School. Admitted 1928-29.
W. K. C. Guthrie. B.A.	Trinity College, Cambridge. Craven Student. Admitted 1928-29.
G. D. Hake. M.A., F.R.I.B.A.	Headmaster of the School of Architecture of the Royal West of England Academy, Bristol. Admitted as first holder of the R.I.B.A. Athens Bursary, 1929-30.
N. G. L. Hammond. B.A.	Gonville and Caius College, Cambridge. Fellow and Tutor of Clare College, Cambridge. Admitted as holder of the Sandys Studentship, 1929-30.
Miss M. L. Macdonnell. M.A.	Lecturer in Classics at Queen's University, Kingston, Canada. Admitted 1929-30.
C. M. Robertson.	Admitted 1929-30.
Miss O. M. Rowe.	Somerville College, Oxford. Admitted as School Student, 1929-30.
T. C. Skeat. B.A.	Christ's College, Cambridge. Assistant Keeper in the Department of MSS., British Museum. Admitted as holder of Sachs Studentship, 1929-30. Re-admitted as Walston Student, 1930-31.
C. R. Wason. B.A.	Gonville and Caius College, Cambridge. Lecturer at Toronto University. Admitted as first holder of Walston Scholarship, 1929-30.
Miss J. E. Matthews. M.A.	University of Toronto. Admitted 1930-31.
Miss M. E. Hirst. M.A.	Newnham College, Cambridge. Lecturer in Classics, Birmingham University. Admitted 1930-31.

Miss B. Wilkinson. B.A.	St. Hilda's College, Oxford. Admitted 1930-31. Readmitted as School student 1931-32.
R. D. Barnett. B.A.	Corpus Christi College, Cambridge. Assistant Keeper in the Department of Egyptian and Assyrian Antiquities, British Museum. Admitted as School Student, 1930-31. Readmitted 1931-32.
J. K. Brock. B.A.	Trinity College, Cambridge. Admitted 1930-31. Readmitted 1931-32.
R. J. Heald Jenkins. B.A.	Emmanuel College, Cambridge. Prendergast Student. Admitted 1930-31. Readmitted 1931-32 (Macmillan Student).
T. Burton Brown.	Emmanuel College, Cambridge. Admitted 1930-31. Readmitted 1931-32.
Capt. H. R. Walker.	King's College, Cambridge. Admitted 1930-31.
R. F. Cole. B.Arch., F.R.I.B.A.	Liverpool University School of Architecture. Admitted 1931-32, as holder of R.I.B.A. Bursary.
C. C. Cremin. B.A.	University College, Cork. Travelling student, National University of Ireland. Admitted 1931-32.
G. T. Griffith. M.A.	Fellow of Gonville and Caius College, Cambridge. Admitted 1931-32.
H. Megaw. B.A.	Peterhouse, Cambridge. Walston Student. Admitted 1931-32.
R. L. Roberts.	Exeter College, Oxford. Clarke Student. Admitted 1931-32.
Miss R. D. Smith. B.A.	St. Hilda's College, Oxford. Admitted 1931-32.
R. E. Wycherley. B.A.	Queens' College, Cambridge. Admitted 1931-32.

## ASSOCIATES OF THE SCHOOL.

*Rev. A. H. Cruikshank.	Elected 1896.
Ambrose Poynter, Esq.	" 1896.
J. E. Brooks, Esq.	" 1896.
Miss Louisa Pesel.	" 1902.
J. F. Crace, Esq.	" 1902.
Miss Mona Wilson.	" 1903.
J. S. Carter, Esq.	" 1903.
B. Townsend, Esq.	" 1903.
A. M. Daniel, Esq.	" 1903.
H. W. Allen, Esq.	" 1906.
W. Miller, Esq.	" 1906.
George Kennedy, Esq.	" 1906.
A. E. Zimmern, Esq.	" 1910.
Miss Negreponte	" 1912.
C. J. Ellingham, Esq.	" 1913.
Capt. H. M. Greaves, R.A.	" 1913.
Shirley Atchley, A.R.P.	" 1920.
Miss C. A. Hutton	" 1926.
Rev. W. A. Wigram	" 1926.
Prof. H. J. W. Tillyard	" 1929.
Miss G. R. Levy	" 1930.
D. Dickson, Esq.	" 1930.

# RULES AND REGULATIONS OF THE BRITISH SCHOOL AT ATHENS.

## OBJECTS OF THE SCHOOL.

I. The first aim of the School shall be to promote the study of Greek archaeology in all its departments. Among these shall be (i) the study of Greek art and architecture in their remains of every period; (ii) the study of inscriptions; (iii) the exploration of ancient sites; (iv) the tracing of ancient roads and routes of traffic.

II. Besides being a School of Archaeology, it shall be also, in the most comprehensive sense, a School of Classical Studies. Every period of the Greek language and literature, from the earliest age to the present day, shall be considered as coming within the province of the School.

III. The School shall also be a centre at which information can be obtained and books consulted by British travellers in Greece.

IV. For these purposes a Library shall be formed, and maintained, of archaeological and other suitable books, including maps, plans, and photographs.

## THE SUBSCRIBERS.

V. The following shall be considered as Subscribers to the School:—

- (1) Donors, other than Corporate Bodies, of £10 and upwards.
- (2) Annual Subscribers of £1 and upwards during the period of their subscription.

VI. Subscribers of £2 annually or more, and Donors of £20 and upwards to the general funds of the School, shall receive a copy of the *Annual* free of charge.

Subscribers of £1 annually and Donors of £10 to the general funds shall be allowed to purchase the *Annual* at a reduced rate of £1. All Subscribers shall be entitled to receive a copy of the Annual Report and to use the Library and attend the public meetings of the School in Athens.

VII. A Corporate Body subscribing not less than £50 a year, for a term of years, shall, during that term, have the right to nominate a member of the Managing Committee.

VIII. A meeting of Subscribers shall be held in October of each year, at which each Subscriber shall have one vote. A subscribing Corporate Body may send a representative. At this meeting a report from the Managing Committee shall be presented, including a financial statement and selections from the reports of the Director and Students for the season. At this meeting shall also be annually elected or re-elected the Treasurer and the Secretary of the School, two Auditors, and four members of the Managing Committee, in place of those retiring under Rule XIII. (3).

IX. Special meetings of Subscribers may, if necessary, be summoned by the Managing Committee.

## THE TRUSTEES.

X. The property of the School shall be vested in three Trustees, who shall be appointed for life, except as hereinafter provided. Vacancies in the number of Trustees shall be filled up at the annual meeting of the Subscribers.

XI. In the event of a Trustee becoming unfit or incapable of acting, he may be removed from his office by a majority of three-fourths of those present at a special meeting of Subscribers summoned by the Managing Committee for that purpose, and another Trustee shall by the same majority be appointed in his place.

XII. In the event of the death or resignation of a Trustee occurring between two annual meetings, the Managing Committee shall have the power of nominating another Trustee to act in his place until the next annual meeting.

## THE MANAGING COMMITTEE.

XIII. The Managing Committee shall consist of the following :—

- (1) The Trustees of the School.
- (2) The Treasurer and Secretary of the School and the Editor of the *Annual*.
- (3) Twelve Members elected by the Subscribers at the annual meetings. Of these, four shall retire in each year, at first by lot, afterwards by rotation. Members retiring are eligible for re-election.
- (4) The members nominated by Corporate Bodies under Rule VII.

XIV. The Committee shall have control of all the affairs of the School, and shall decide any dispute that may arise between the Director and Students. They shall have power to deprive any Student of the use of the school premises.

XV. The Committee shall meet as a rule once in every two months; but the Secretary may, with the approval of the Chairman and Treasurer, summon a special meeting when necessary.

XVI. Due notice of every meeting shall be sent to each member of the Committee by a summons signed by the Secretary. Three members of the Committee shall be a quorum.

XVII. In case of an equality of votes, the Chairman shall have a second or casting vote.

XVIII. In the event of vacancies occurring among the officers or on the Committee between the annual elections, they may be provisionally filled up by the Committee until the next annual meeting.

## HONORARY STUDENTS, HONORARY ASSOCIATES, STUDENTS, AND ASSOCIATES.

XIX. The Students shall consist of the following :—

- (1) Holders of travelling fellowships, studentships, or scholarships at any University of the British Empire.
- (2) Travelling Students sent out by the Royal Academy, the Royal Institute of British Architects, the Byzantine Research and Publication Fund, or other similar bodies.
- (3) Other persons who shall satisfy the Managing Committee that they are duly qualified to be admitted to the privileges of the School.

XX. No person, other than a student of the British School at Rome, shall be admitted as a Student who does not intend to reside at least three months in Greek lands. In the case of Students of the British School at Rome, an aggregate residence of four months at the two Schools will be accepted as alternative to three months' residence in Greece.

XXI. Students attached to the School will be expected to pursue some definite course of study or research in a department of Hellenic studies, and to write in each season a report upon their work. Such reports shall be submitted to the Director, shall by him be forwarded to the Managing Committee, and may be published by the Committee if and as they think proper.

XXII. Intending Students are required to apply to the Secretary. They will be regarded as Students from the date of their admission by the Committee to the 31st day of October next following; but any Student admitted between July 1st and October 31st in any year shall continue to be regarded as a Student until October 31st of the following year.

XXIII. The Managing Committee may elect as Honorary Students or as Honorary Associates of the School such persons as they may from time to time deem worthy of that distinction. They may also elect as Associates of the School any persons actively engaged in study or exploration in Greek lands.

XXIV. Honorary Students, Honorary Associates, Students, and Associates shall have a right to use the Library of the School and to attend all lectures given in connexion with the School, free of charge.

XXV. Students shall be expected to reside in the Hostel provided for them, except with the sanction of the Managing Committee. Priority of claim to accommodation in the Hostel shall be determined by the Committee.

## THE DIRECTOR.

XXVI. The Director shall be appointed by the Managing Committee, on terms which shall be agreed upon at the time, for a period of not more than three years. He shall be eligible for re-election.

XXVII. He shall have possession of the school-building as a dwelling-house.

XXVIII. It shall be his duty (1) to guide and assist the studies of Students and Associates of the School, affording them all the aid in his power, and also to see that reports are duly furnished by Students, in accordance with Rule XXI., and placed in the hands of the Secretary before the end of June; (2) to assist in editing the School *Annual*.

XXIX. Public Meetings of the School shall be held in Athens during the season, at which the Director and Students of the School shall read papers on some subject of study or research, and make reports on the work undertaken by the School.

XXX. He may at his discretion allow persons, not Students of the School, to use the Library and attend the public meetings and lectures of the School.

XXXI. He shall be resident at Athens from the beginning of November in each year to the end of the following June, but shall be at liberty to absent himself for short periods for purposes of exploration or research.

XXXII. At the end of each season he shall report to the Managing Committee—(i) on the studies pursued during the season by himself and by each Student; (ii) on the state of the School-premises and the repairs needed for them; (iii) on the state of the Library and the purchases of books, &c., which he may think desirable; and (iv) on any other matter affecting the interests of the School.

XXXIII. In case of misconduct the Director may be removed from his office by the Managing Committee by a majority of three-fourths of those present at a meeting specially summoned for the purpose. Of such meeting at least a fortnight's notice shall be given.

## THE ASSISTANT DIRECTOR AND LIBRARIAN.

XXXIV. The Assistant Director shall be appointed by the Managing Committee, on terms which shall be agreed upon at the time, for a period of not more than three years. He shall be eligible for re-election.

XXXV. It shall be his duty to take charge of the Library and to be responsible for the Hostel, subject to the Director's approval and control, and otherwise help if required in the management of the School.

## RULES FOR THE MACMILLAN HOSTEL.

XXXVI. The Director shall have power to exclude a Student from the Hostel in case of misconduct; but such exclusion must be immediately reported to the Managing Committee.

XXXVII. The Students shall pay an entrance fee of £2 2s. per session, and a fixed charge of 3s. a night or £1 a week for the small rooms in the Hostel. Two Students sharing a large room shall pay a reduced charge. These payments shall include fire, lighting, and the necessary servants' wages. Students shall also be required to pay the cost of their messing.

XXXVIII. Honorary Students, Honorary Associates, Associates, Members of the Committee, and ex-Directors may be admitted to residence in the Hostel. Other persons, if seriously engaged in study or research, may be admitted by the Director at his discretion. But no person shall reside in the Hostel under this rule to the exclusion of any Student desiring admission.

XXXIX. Residents other than Students or Associates shall pay an entrance fee of £2 2s. for any period up to three months, or £5 5s. per session, and a fixed charge of 6s. a night or £2 a week and the cost of messing. Associates shall be admitted to the Hostel at Student rates.

## THE VILLA ARIADNE AT KNOSSOS.

XL. The Archaeological Curator at Knossos shall be appointed <sup>1</sup> by the Managing Committee for a period of not more than three years. He shall be eligible for re-election.

XLI. It shall be his duty (1) to reside generally at the Villa Ariadne from February 15th to August 15th; (2) to supervise the house and property generally and to see that the Palace and other excavated buildings are properly cared for.

XLII. He shall hold with regard to the Director of the School, the same position as the Assistant Director.

XLIII. Students residing at the Villa, and not engaged on an actual School excavation, shall pay the same charges as in the Hostel at Athens. With regard to the "Taverna," special arrangements will be made.

## RULES FOR THE LIBRARY.

XLIV. The Director shall have power to make rules for the management of the Library, its use by Students, and the like; such rules to be subject to the approval of the Managing Committee.

## PUBLICATION.

XLV. No publication whatever, respecting the work of the School, shall be made without the previous approval of the Committee. The Committee of the School shall have the first claim upon any written work done by a Student from material collected during the tenure of a Studentship at the School or with the aid of a grant from the School, and also upon the reports of excavations conducted under an official permit obtained through the School. No such work may be published elsewhere than in the *Annual* of the School without the previous consent of the Committee; always provided that such consent shall not be unreasonably withheld.

## THE FINANCES.

XLVI. All money received on behalf of the School beyond what is required for current expenses shall be invested in the names and at the discretion of the Trustees.

XLVII. The banking account of the School shall be placed in the names of the Treasurer and Secretary, who shall sign cheques jointly.

XLVIII. The first claim on the revenue of the School shall be the maintenance and repair of the School premises in Athens and the Villa Ariadne, and the payment of rates, taxes, and insurance.

XLIX. The second claim shall be the salaries of the Director and other officials of the School, as arranged between them and the Managing Committee.

*Revised, 1932.*

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<sup>1</sup> Subject to the approval of Sir Arthur Evans.

## BRITISH SCHOOL AT ATHENS.

## MANAGING COMMITTEE, 1930-31

EDWIN HANSON FRESHFIELD, Esq.  
 GEORGE A. MACMILLAN, Esq., D.Litt., *Chairman.* } Trustees.  
 V. W. YORKE, Esq., M.A., *Hon. Treasurer.*  
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 MRS. CULLEY, M.A., *ex-officio* as joint editor of the Annual.  
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 L. WHIBLEY, Esq., M.A.  
 B. S. PAGE, Esq., M.A., *Secretary*, 50, Bedford Square, W.C. 1.

## MANAGING COMMITTEE, 1931-1932

EDWIN HANSON FRESHFIELD, Esq.  
 GEORGE A. MACMILLAN, Esq., D.Litt., *Chairman.* } Trustees.  
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 PROFESSOR D. S. ROBERTSON, M.A. Appointed by the University of Cambridge.  
 M. S. THOMPSON, Esq., M.A. Appointed by the Hellenic Society.  
 H. M. FLETCHER, Esq., F.R.I.B.A. Appointed by the Royal Institute of British  
     Architects.  
 MRS. CULLEY, M.A., *ex-officio* as joint editor of the Annual.  
 PROFESSOR BERNARD ASHMOLE, M.A.  
 PROFESSOR R. M. DAWKINS, M.A.  
 PROFESSOR J. P. DROOP, M.A.  
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 E. J. FORSDYKE, Esq., M.A., F.S.A.  
 PROFESSOR E. A. GARDNER, Litt.D.  
 PRINCIPAL W. R. HALLIDAY, M.A., LL.D.      Appointed by the Subscribers.  
 MISS W. LAMB.  
 PROFESSOR J. LINTON MYRES, M.A.  
 M. N. TOD, Esq., O.B.E., M.A., F.B.A.  
 A. J. TOYNBEE, Esq., B.A.  
 A. J. B. WACE, Esq., M.A.  
 L. WHIBLEY, Esq., M.A.  
 W. R. LE FANU, Esq., M.A., *Secretary*, 50, Bedford Square, W.C. 1.

*Hon. Treasurer*, V. W. YORKE, Esq., M.A., Farringdon Works, Shoe Lane, E.C. 4.

DIRECTOR 1930-1931 AND 1931-1932

H. G. G. PAYNE, Esq., B.A.

ASSISTANT DIRECTOR

W. A. HEURTLEY, Esq., O.B.E., B.A.

ARCHAEOLOGICAL CURATOR AT KNOSSOS

J. D. S. PENDLEBURY, Esq., M.A.

ARCHITECT TO THE SCHOOL

P. DE JONG, Esq.

## British School at Athens.

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THE School was founded in 1886 to provide British students of Greek literature, art, archaeology and history with the opportunity of pursuing their researches in Greece itself, with the command of the means which recent great advances of knowledge have rendered indispensable.

The School buildings at Athens are situated on the slopes of Lycabettus on ground presented by the Greek Government. They consist of a house for the Director, and the Macmillan Hostel with accommodation for the Assistant Director and students. Adjoining the hostel is the Penrose Library (so called after the first Director of the School), which contains over 9,000 volumes, classical texts, histories, works on art, archaeology and topography, a rich series of maps, and archaeological periodicals. In the common room of the hostel is housed the Finlay Library, which formerly belonged to George Finlay, the historian of Byzantine and Modern Greece. This collection includes many rare pamphlets, and MSS. dealing with the period of the Greek Revolution, and a collection of Byroniana.

Facilities are afforded for using the libraries and attending the lectures of the other foreign schools, and by the kindness of the Greek Archaeological Service permits are granted giving Students free access to the Museums.

In 1926 Sir Arthur Evans, with the consent of the Greek Government, presented to the Trustees of the School his properties in Crete, including the Villa Ariadne and the site of the Palace at Knossos. He further endowed his gift in order to provide for the upkeep of the Palace and for the maintenance of an Archaeological Curator, who resides in the Villa Ariadne from February to August each year. He has also (1928) renovated the old 'Taverna' in the garden of the Villa so as to provide residential accommodation for the use, at any time, of one or two members of the School independently studying the antiquities of the spot. A library is being formed in the Villa for the use of students working in Crete.

The School at Athens is open from November 1st until July 1st, during which time either the Director or Assistant Director is in residence.

Any duly qualified British subject may be admitted as a member of the School, and Students of the British School at Rome have the privilege of admission as a matter of course.

A Studentship (value £100) is offered each year to the Universities of Oxford and Cambridge alternately; about every three years the Gustav Sachs Memorial Studentship (value £100) is open to all Universities in the British Isles; and a Studentship (value £200 per annum), founded in 1928 by Mr. George Macmillan, is tenable for two years by a man of British nationality.

Holders of Travelling Fellowships, Studentships or Scholarships at any University of the British Empire, and Travelling Students sent out by the Royal Academy, the Royal Institute of British Architects, the Byzantine Research and Publication Fund, or other similar bodies, are also admitted as Students.

Students, except for an entrance fee of £2 2s. per session, have to pay only a rent for their rooms and the cost of their messing. The cost of living in 1930 was about 8s. 6d. per day, 5s. 6d. for food alone.

All Students are normally required to pursue a definite course of study and to reside in Greek lands for at least three months. The Committee however is accustomed to modify these regulations in the case of resident members of the Universities, whose time is necessarily limited, and in the case of Students of the School at Rome.

All applications for admission by intending Students should be made to the Secretary, British School at Athens, 50, Bedford Square, London, W.C. 1.

Archaeological excavation is carried on each year by the Director with members of the School. The list of excavations made by the School includes Megalopolis, Sparta, Mycenae, sites in Cyprus, Thessaly, and Boeotia, Phylakopi in Melos and in Crete Palaikastro and the Dictaean Cave. The results of these excavations, with reports of the other work of the School, are published in the *Annual of the British School at Athens*.

Apart from a Government subsidy of £500, the School is entirely dependent on donations and subscriptions from individuals and from corporate bodies, academic and others.

Individual subscribers of £2 per annum or donors of £20 to the General Fund of the School receive the current volume of the *Annual* free of charge; subscribers of £1 or donors of £10 are entitled to purchase a copy for an additional £1. (The published price is about £3 3s.)

Any subscriber, when in Athens, is entitled to the full use of the Library.

Further donations and annual subscriptions are urgently required to meet the cost of upkeep, which has become much heavier in recent years, and should be sent to the Hon. Treasurer, V. W. Yorke, Esq., Farringdon Works, Shoe Lane, London, E.C. 4.

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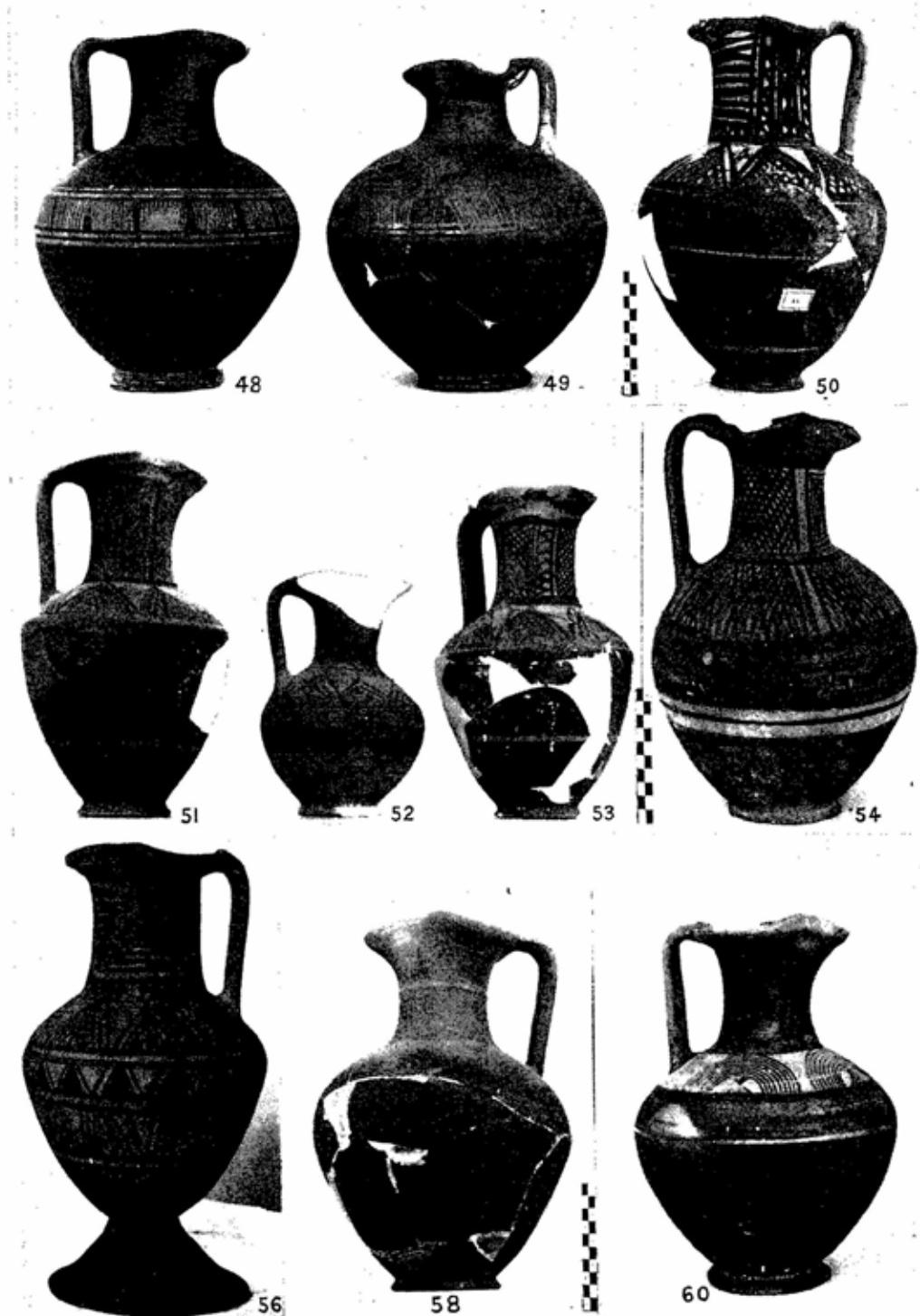
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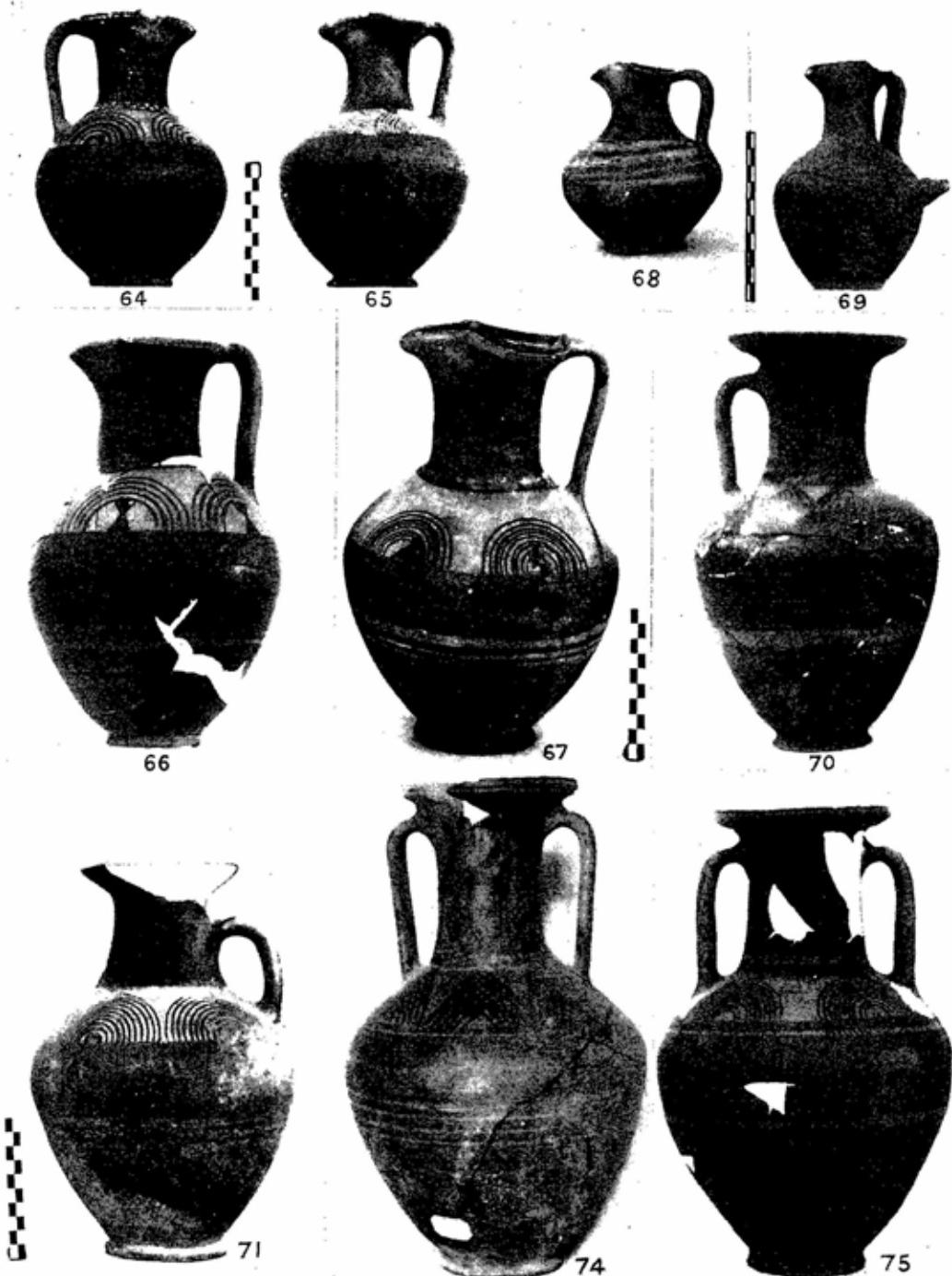
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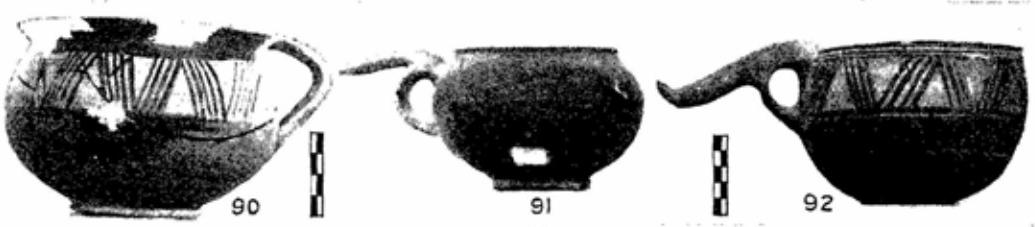


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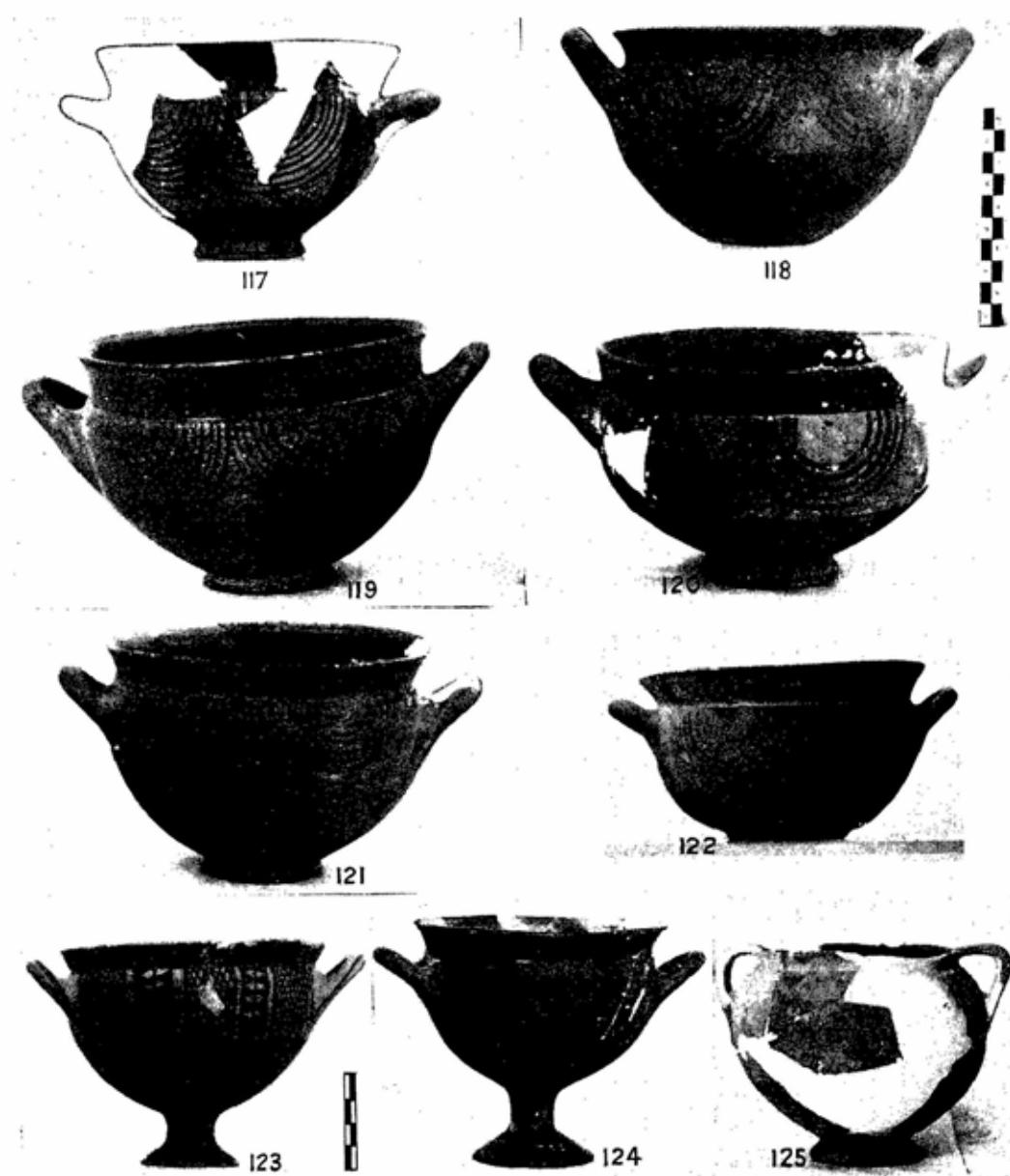
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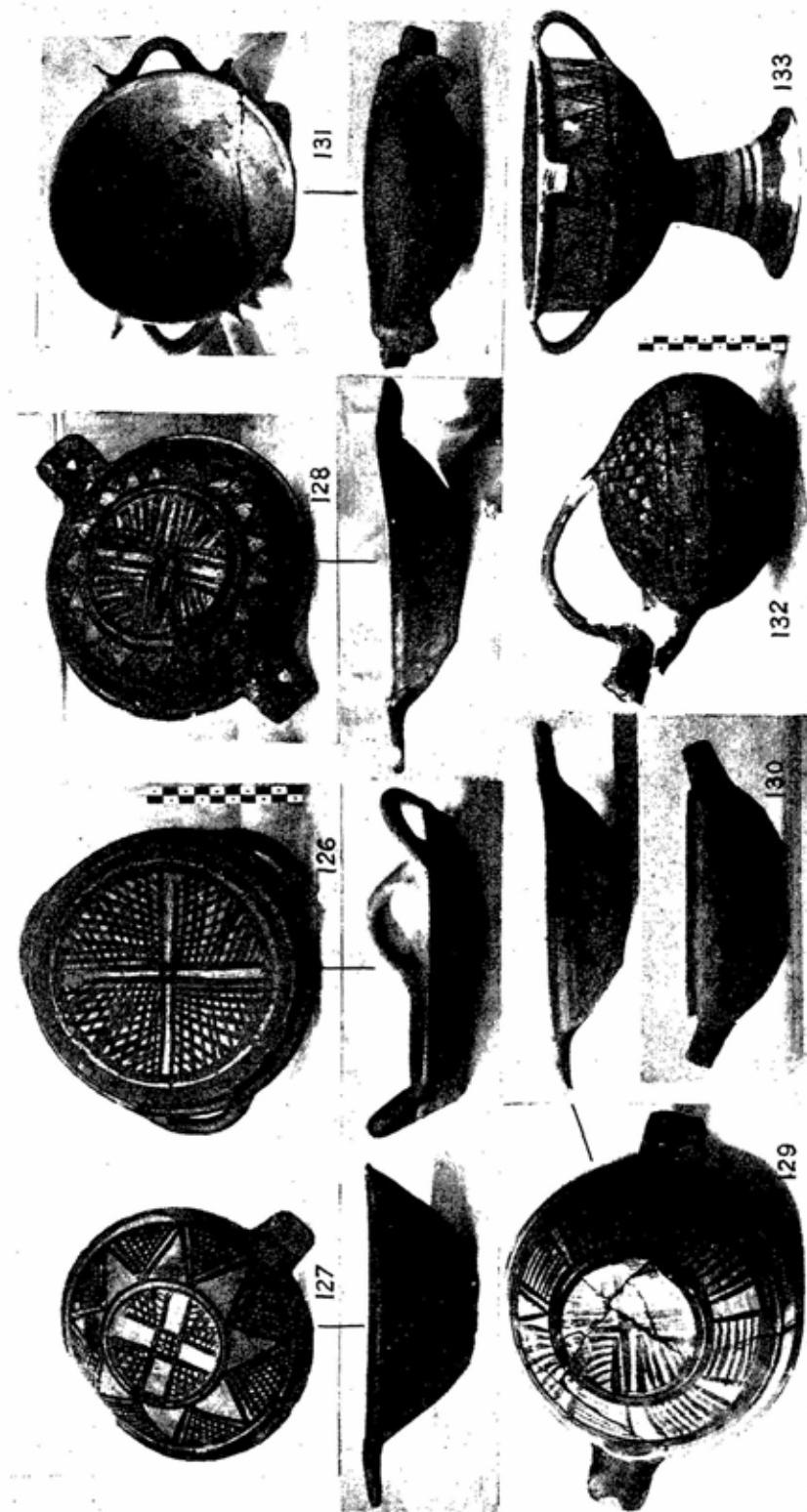
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CRETE: EARLY ORIENTALISING OINOCHOE FROM FORTEZZA (No. 14).





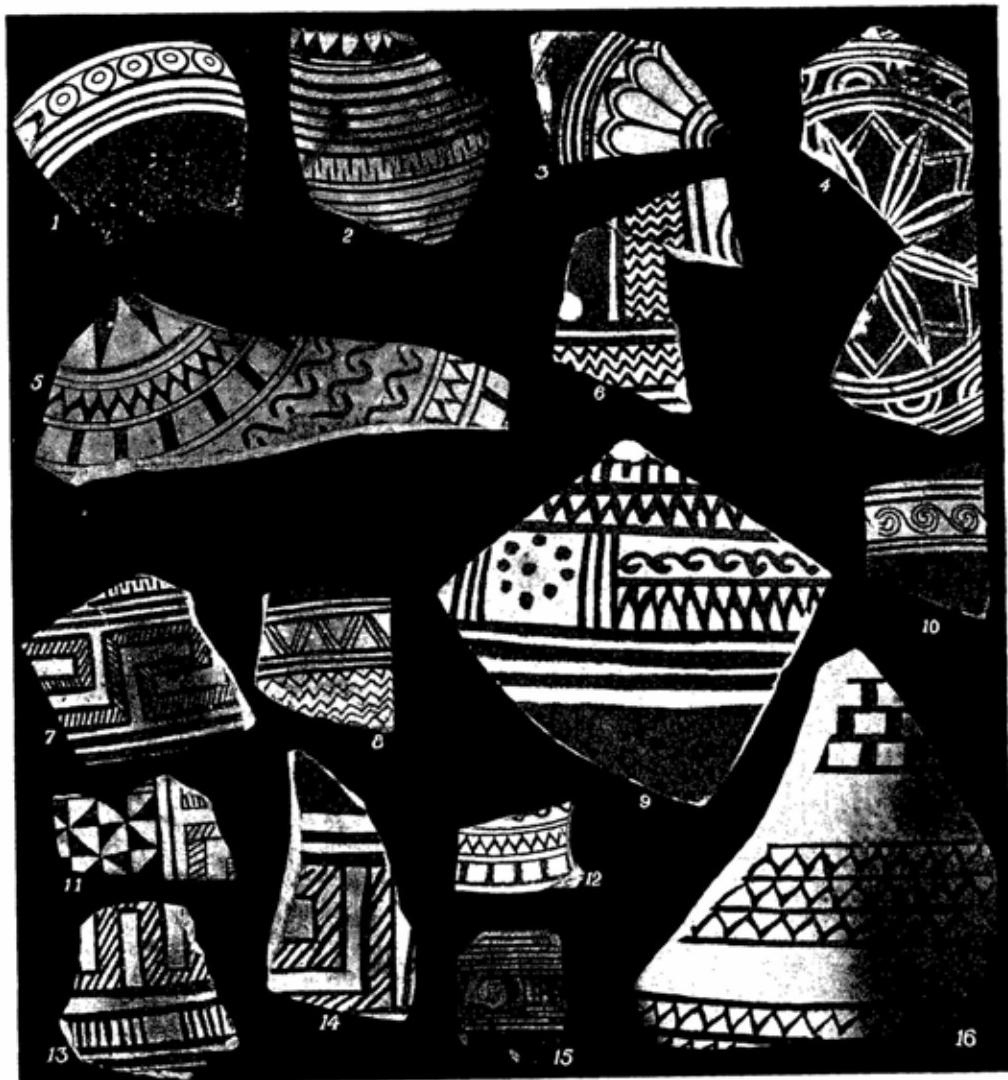
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CRETE: FRAGMENTS FROM KNOSSOS.





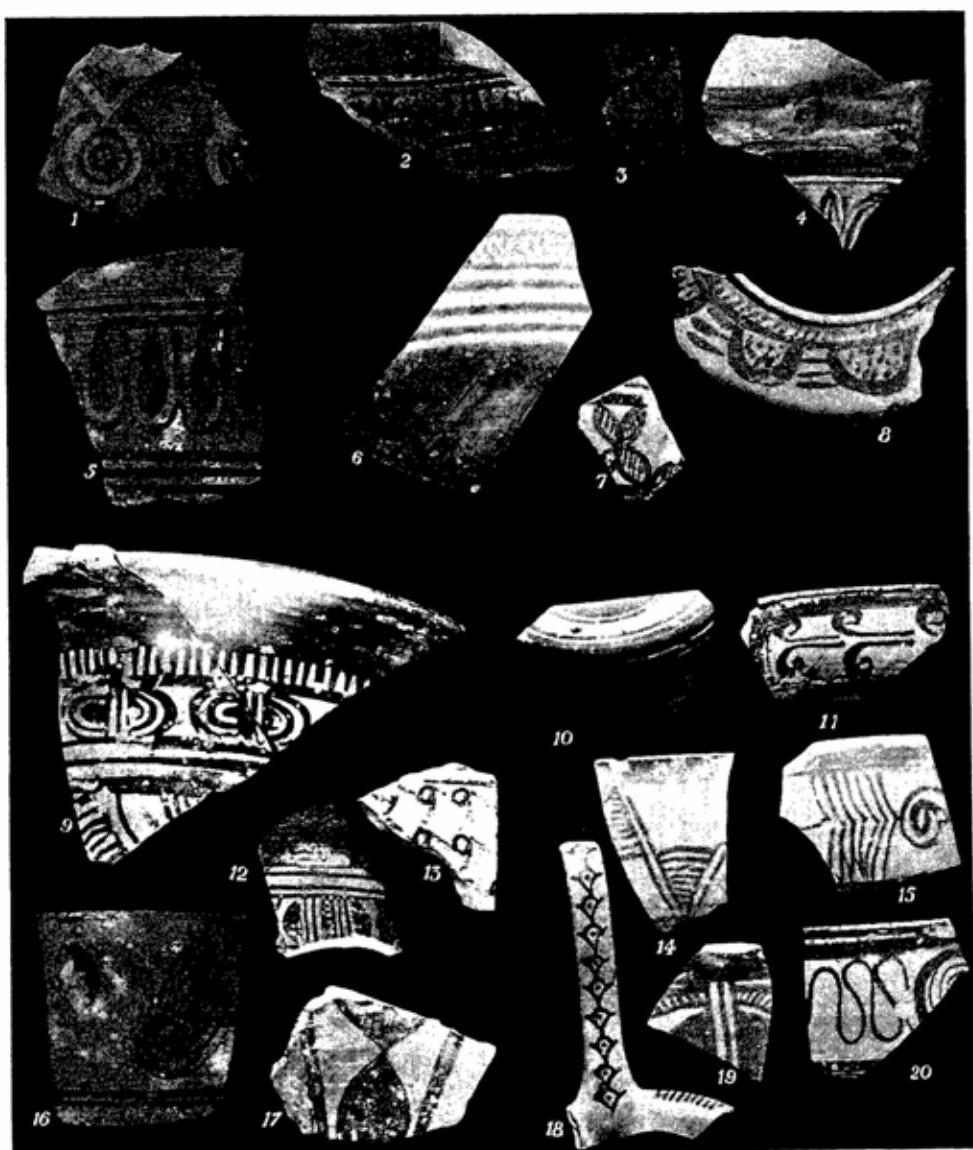
CRETE: FRAGMENTS FROM THE PALACE AT KNOSSOS.





CRETE: FRAGMENTS FROM KNOSSOS; NO. 2, PROTOCORINTHIAN; NO. 5, RHODIAN.





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Nos. 2, 3, ATTIC; No. 6 PROTOCORINTHIAN.





CRETE: FRAGMENTS FROM THE PALACE AND LITTLE PALACE AT KNOSSOS.





CRETE : POLYCHROME FRAGMENTS FROM KNOSSOS (except No. 1).





CRETE: POLYCHROME FRAGMENTS FROM KNOSSOS.



# THERMI II

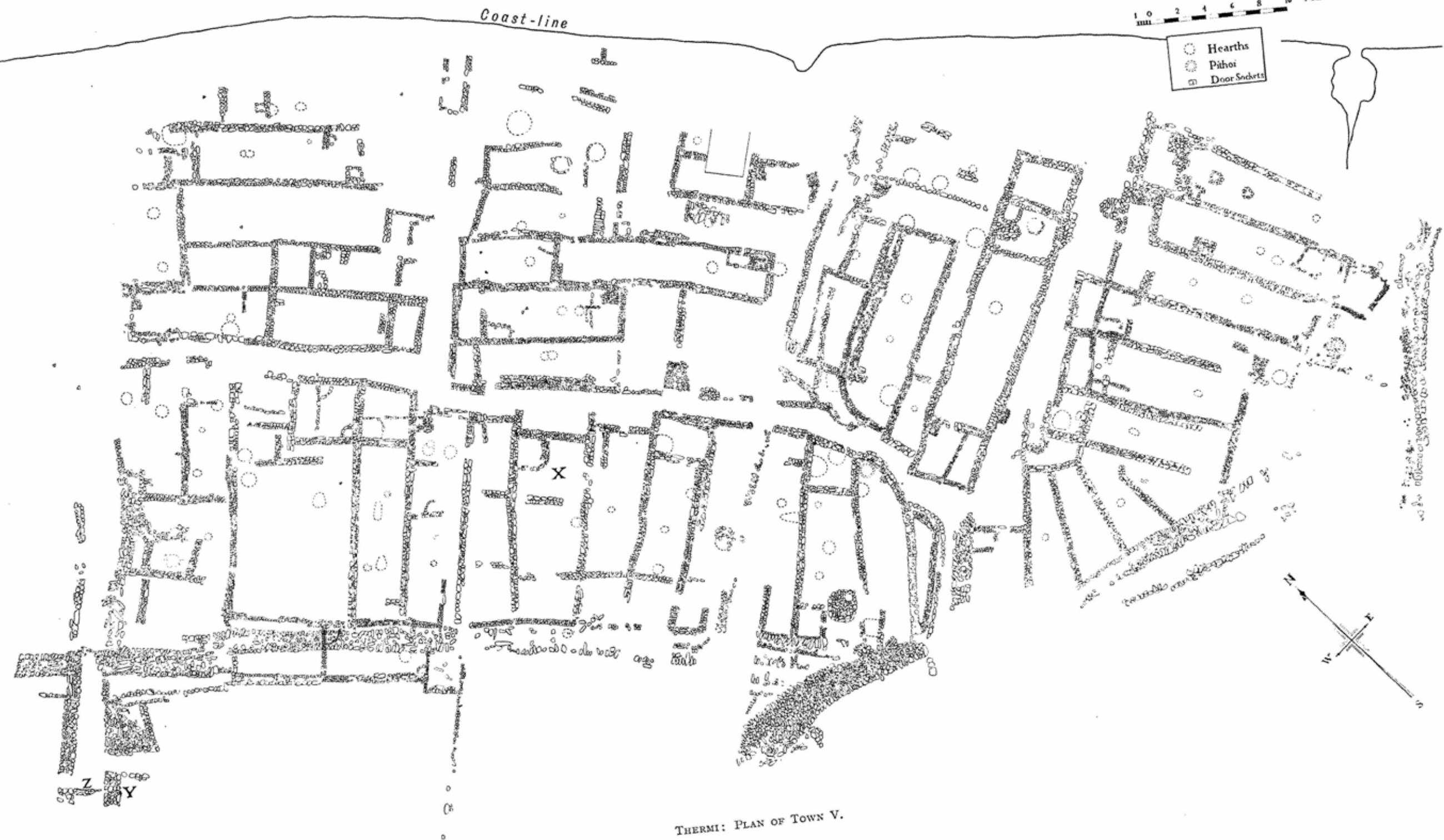


THERMI: PLAN OF TOWN II.



# THERMI V.

METRES.







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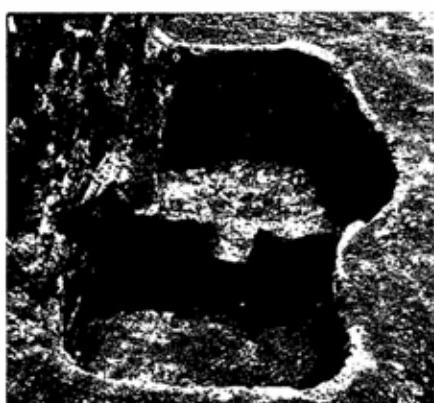
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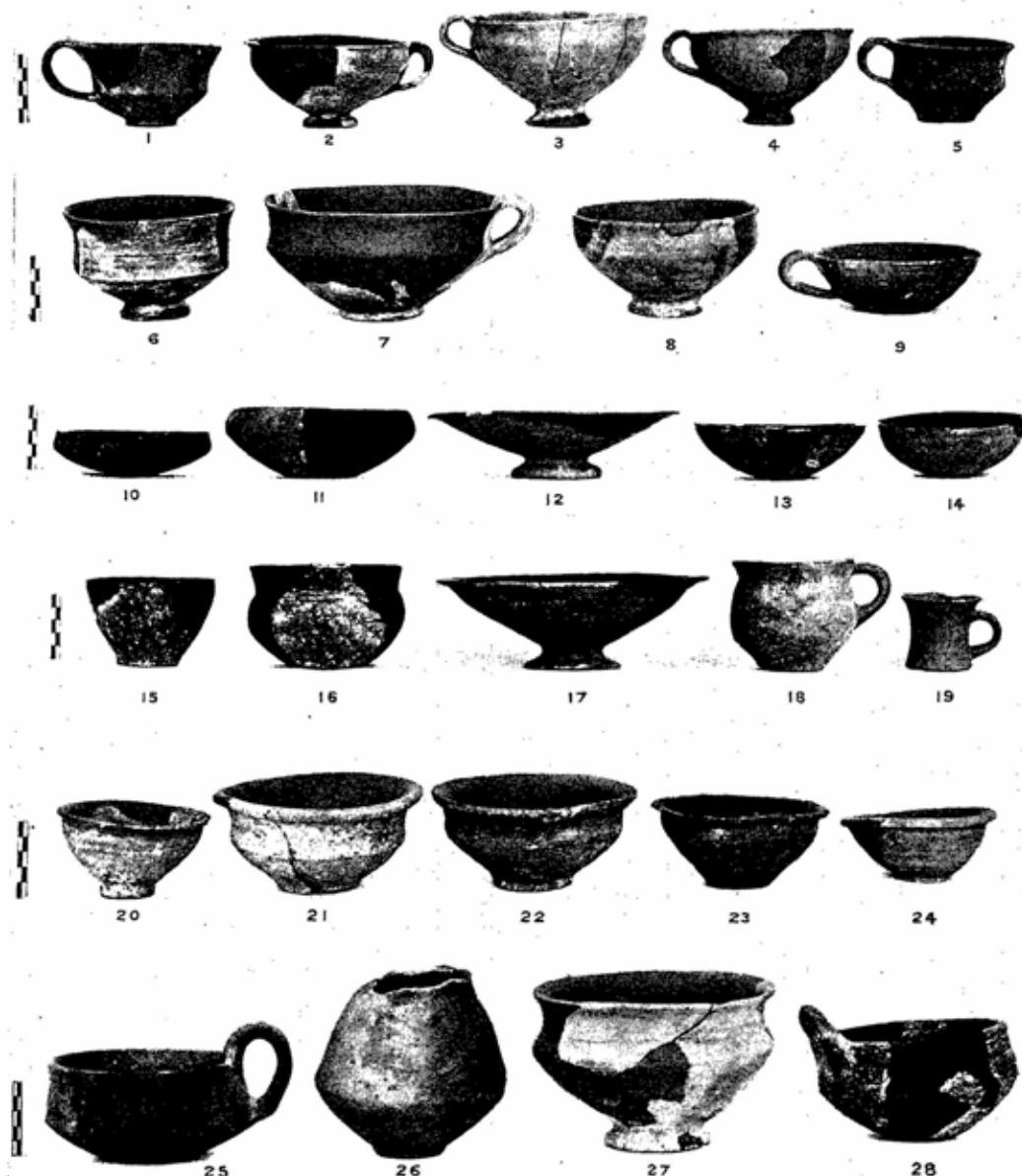
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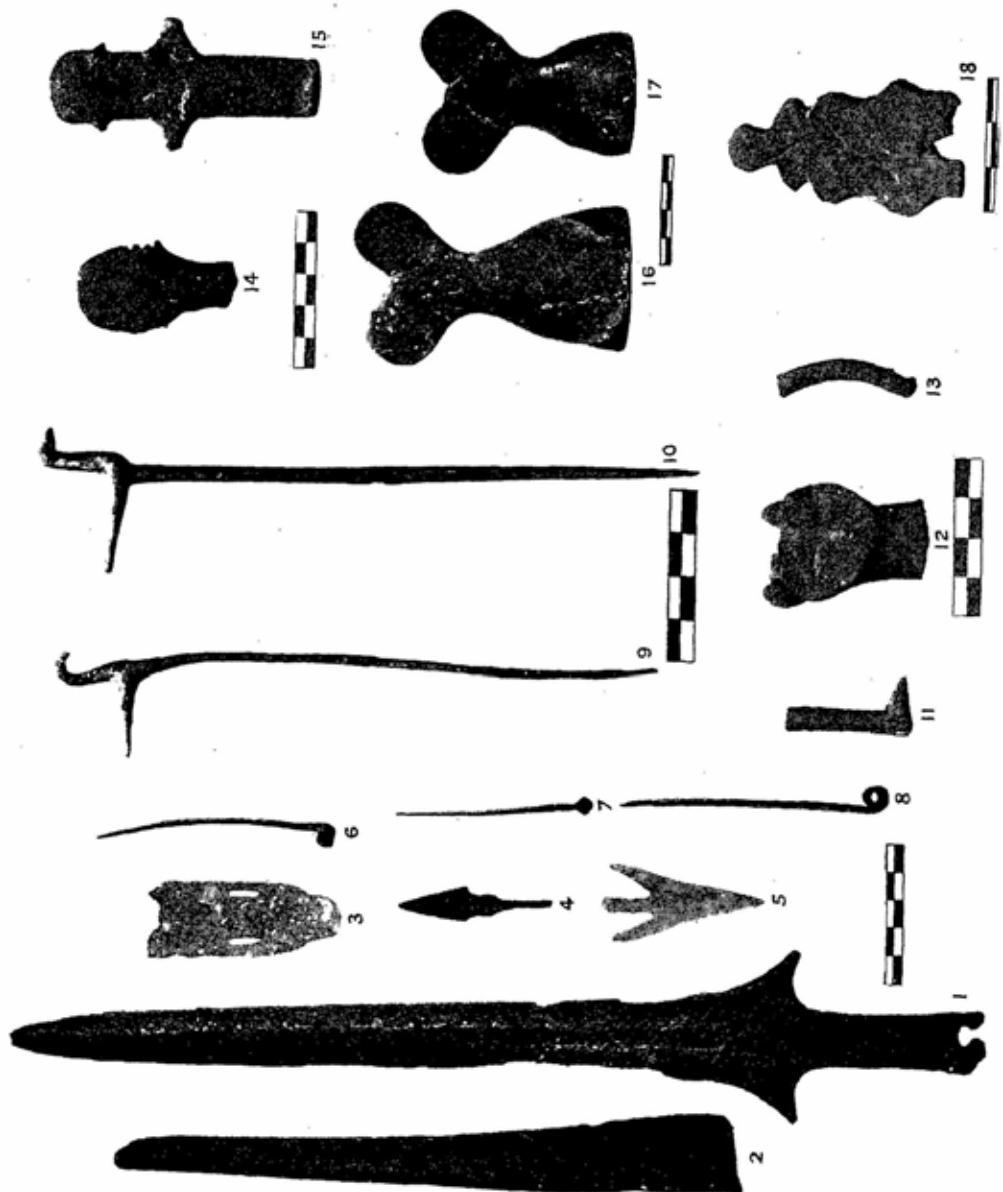
THERMI: 1, Town Walls, p. 151; 2, Terrace Wall, p. 154;  
3, Road, p. 150; 4, Watch Tower, p. 153;  
5, Double Bothros, p. 149; 6, House Walls, p. 148.





THERMI AND ANTISSA: LESBIAN RED AND GREY WARE.





THERMI: SMALL FINDS.





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ANTISSA: 1, Wall, A.C., p. 171; 2, Pithos in P., p. 170;  
3, Wall, N. of Acropolis, p. 172; 4, Kantharos, pp. 175-7;  
5, Tomb, Group V.C., p. 174; 6, Amphorae, p. 171.





ANTISSA: LESBIAN RED WARE AND BUCCHERO.





S. N.C.

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